The Builder.

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The Strike.

DURING the past week, the incidents in the dispute between master-builders and their workmen have been important, inasmuch as the masons have seceded from the nine-hours movement, and the masters have received a considerable accession to the number of men under the "declaration." At the same time the body of men still holding to the Conference of Trades, and the masons likewise, express the same repugnance to the "declaration;" and, whilst we have the best reason to expect that, within two or three weeks, the principal firms will be provided with their complement of hands, we still apprehend that many men who were recently in receipt of wages will be deprived of means of subsistence through the winter; and thus there will be a continuance of embittered feelings, besides those results on all sides which may be felt for years. The masters in the smaller way of business will find the chief difficulty: there is not the same attachment from length of service, and other reasons, which is felt in the other case, and stands in the condition of an inducement to the men to withdraw from the Conference and the Union, and to accept the "declaration." It is true that many of these masters, such as have not joined the Central Association or required the "declaration," have benefited during the strike; but, the tendency has unquestionably been to bring ruin to small masters and workmen together. It is likely to be one of the results of an unsuccessful strike to give more power to the large capitalist or employer, and to break down the employer who has sprung from the class of the workmen. Whether this is of the nature of an advantage in any direction we will not now examine, but the result was certainly not such as could have been desired by those who struck.

It is evident to us that with the larger employers, matters will very soon fall into their old channel. But the public, looking at the opposite statements, will have some difficulty in understanding, without explanation, how this condition of things will be attained. There is still great discrepancy between reports on the two sides, of the number of men at work; the associated masters, however, have the best foundation for what they have put forth, namely, the positive figures which are filled in printed forms, and are sent to the committee weekly, and then added up. From these it appeared at the commencement of this week, that there were 7,620 men at work under the "declaration," or about 3,000 more than at the previous week; and this leads the committee to suppose that many men will begin to apprehend their places may be filled, and that there will be an addition of several thousands by next Tuesday, or before the week following. The Conference do not admit that any number of men such as that stated by the masters, are at work, whether drawn from their ranks or otherwise. They placed pickets last week at the shops, and works in progress, of some of the leading builders; and the differences between their numbers and those furnished by the masters themselves, are considerable. For instance, they reported Messrs. Wm. Cubitt & Co. as having had 203 men and boys at work, whilst the statement of the same firm appears to be that they had 852 men. Mr. Moxon's men, at the High-level sewer works, reported by the Conference as 31, are otherwise stated as 868; Mr. Kelk's, 325, including navvies, as 674; Messrs. Patman and Fotheringham's, 3 boys, as 71 men; Messrs. Mansfield and Son's, 19 men and boys, as 87 men; Messrs. Browne & Robinson's, 14 men as 69; and large returns are made by other firms, which do not appear to have been taken account of by the Conference. The official return of the Conference, of the money paid on Monday, also shows that there were fewer recipients of the fund to the number of 501, as compared with the previous week, which had shown a diminution of only 21 recipients from the week before that. The dividend was at the rate of 4s. a man to the operatives, 6,454, exclusive of Trollope's men, who were paid each 12s. skilled, and 8s. unskilled. The aggregate sum distributed was 1,328*l.* 4s. or 2*l.* 8s. less than the amount paid away on the previous week. Whether the 500, or larger number of men, have accepted the "declaration," or have procured work in another way, and thus in either manner have ceased to be dependent on the funds, we have no means of knowing. But it will be observed that the number of men employed under the "declaration," added to the number relieved by the Conference, leaves a very large remainder, of whose present mode of existence there is no account whatever. The number of men talked of, about two months ago, by Lord Brougham and Mr. Tite as thrown out of employment, was 90,000, an exaggerated statement, for which the men at the same date substituted the figures 20,000,—whilst the number of the whole of the trade in London was put at 60,000. We have reason to think the real number thrown out by the strike and lock-out was about 26,000. There are, therefore, 11,000 or 12,000 men to be accounted for. Many of these would be found to belong to trades not recognized in the Conference, as the smiths; and some will be non-society men who have not procured work at the present time. There must, however, still be a very large remainder. Some of these already have emigrated,—if to Melbourne, we fear only to find the ignorance of the question of capital and labour as destructive in its tendency as it is in the mother country. The bulk of the remainder, however, would be met with perhaps in the provinces. At the commencement of the strike, some of the masters were able to export men to the country, where they could be preserved at work, without the "declaration," in readiness for the resumption of business in London; and this, combined with the preference by the workmen, affords the reason why certain firms have been able at once to present the figures which have been large enough to be received with discredit. Men have come from the country; but some of them are old hands, who have with satisfaction to themselves and their employers, been kept out of reach of the Conference. It will be seen that the circumstances of this employment of men in the country, offer a clue to the objects of the Conference in such proceedings as were spoken of by Messrs. Waller & Son.

The question further has advanced to solution, inasmuch as the actual state of the law as regards the efficacy for protection of men desirous to work, has been explained, and enforced in cases where the obstruction had reached to violence. A correspondent of the *Times*, Mr. G. D. Webb, referring to the letter of Messrs. Waller & Son, stated last week, that by the law of England, third parties had "no right to obstruct or intimidate workmen either hired or about to be hired, so as to induce such workmen to leave their employment or not to engage themselves;" and that such an offence amounted to a conspiracy, and would subject the convicted persons to very severe punishment. If this be correct, there can be no doubt of the illegality of some of the proceedings on the part of the Conference—those even which have not gone to the length of personal violence. In cases of assault, the 9th of George IV. c. 31, s. 25, "enacts among other things that if any assault be committed, in pursuance of any conspiracy to raise the rate of wages, the court may sentence the offender to be imprisoned, with or without hard labour, in the common goal, for any term not exceeding two years, and may also fine the offender, and require him to find sureties for keeping the peace." A digest of the existing law has within the last few days been furnished by Lord St. Leonards, with an opinion. The digest has been published. It is very plain as showing the illegality of many recent proceedings, as well as of many of the printed rules of the societies. The 6th George IV. c. 129, which, we may add, was passed "to repeal the laws relating to combination of workmen, and to make other provisions in lieu thereof," Lord St. Leonards says, "states that combinations interfering with the free employment of capital and labour, are injurious to trade and commerce, dangerous to the tranquillity of the country, and especially to the interests of all who are concerned in them. The object of the Act is then declared to be to make provision as well for the security and personal freedom of individual workmen in the disposal of their skill and labour, as for the security of property and persons of masters and employers." The Act then makes punishable by imprisonment, not exceeding three months with or without hard labour, the following offences, viz.:—

"Where any person shall by violence to the person or property, or by threats or by intimidation, or by molesting, or in any way obstructing another,—

1. Force or endeavour to force any journeyman, manufacturer, or workman, or other person to depart from his hiring, employment, or work, or to return his work before it is finished;

2. Or prevent or endeavour to prevent any journeyman, manufacturer, workman, or other person not being hired or employed, from hiring himself to or from accepting work or employment from any person or persons;

3. Or for the purpose of forcing or inducing any other person to belong to any club or association, or to contribute to any common fund, or to pay any fine or penalty, or on account of his not belonging to any club or association, or not having contributed or having refused to contribute to any common fund; or to pay any fine or penalty; or on account of his not having complied, or his refusing to comply with any rules, orders, resolutions, or regulations made to obtain an advance or to reduce the rate of wages, or to lessen or alter the hours of working, or to decrease or alter the quantity of work, or to regulate the mode of carrying on any manufacture, trade, or business, or the management thereof;

4. Or shall force or endeavour to force any manufacturer or person carrying on any trade or business to make any alterations in his mode of regulating, managing, or carrying on such trade, manufacture, or business, or to limit his number of apprentices or the number or description of his journeymen, workmen, or servants."

The Act, however, provides for meetings and arrangements, whether of masters or men, relative to the wages or prices, or hours of work, which may be agreed upon between the persons present at the meeting, as to be required or demanded: that is to say, there is the same law applicable to either interest;—whilst by an Act of the present year (22nd Victoria, c. 34) passed to amend and explain the former Act, it is provided,—

"That no one, whether in actual employment or not, shall by reason merely of his entering into any agreement with any workmen, or other person or persons, for the purpose of fixing or endeavouring to fix the rate of wages or remuneration at which they, or any of them, shall work, or by reason merely of his endeavouring peaceably and in a reasonable manner, and without threats or intimidation, direct or indirect, to persuade others to cease or abstain from work, in order to obtain the rate of wages or the altered hours of labour so fixed or agreed upon, shall be deemed or taken to be guilty of 'molestation or obstruction' within the meaning of the former Act, and shall not therefore be subject to prosecution or indictment for conspiracy. But it is provided that nothing contained in this later Act shall authorize any workman to break or depart from any contract, or authorize any attempt to induce any workman to break or depart from any contract."

We understand this interpretation of the law to be that alone which is consistent with the public interests, and the respective rights. The law preserves the utmost liberty to each individual, or class, that is compatible with the liberties of others. It recognizes no right on the part of a society to coerce in any manner the actions of those who do not care to belong to a society: it simply goes to mete out equal justice and liberty to each of the three parties—the society man, the non-society man, and the employer, or buyer of labour. We have been told much of the excellent tendency of the rules of the societies, and we are not unacquainted with those which are printed, and others which are understood and acted upon. There is much in the printed rules to condemn them according to any code of justice or of morals; but there is

little which would lead to supposition of the practices which are most notorious on the occasion of strikes—did not such practices, and indeed every sort of intimidation and violence follow naturally from the effort to carry the rules into practice. So long as the societies pursue their objects by means which are of the nature of a despotism, and are inconsistent with true liberties of the people, so long will the title of the operative classes to representation in the legislature be withheld from them.

Looking at the rules of the Operative Masons' Society, which as a benefit society is well conducted, and is in many respects a model of organization, we find that after expressing that one of the chief objects of the society is "to regulate the price and lessen the hours of labour," and "to bring into practice among its members the truly valuable object of a self-protecting power against the selfish and unprincipled proceedings of the capitalist,"—fallacies of principle thus disclosing themselves at the outset,—they provide for publication, annually, of a "black list;" for the abolition of overtime, tending as they say to general injury of the members by keeping some out of employment, and for fines on members who persist in so working; for restricting employers in several matters, as "introducing individuals not of the trade," and for resisting "such infringements" as the refusal of non-members to contribute to the society. The Progressive Society of Operative Carpenters and Joiners seem to have their rules framed on similar principles; and the "General Laws of the Metropolitan Society of Operative Bricklayers," 1857, say—"That shall a bricklayer who has at any time gone to work on a job when a strike has taken place (sanctioned by this society) go to work with members of this society, the said members may resist the same (if they cannot come to any satisfactory arrangement with the said 'black'), by first making application to the foreman or master, as the case may be, for the immediate discharge of the said 'black;' and if he will not comply, the members shall be empowered to strike and picket the job at the time," &c. Another law imposes a fine for taking taskwork, or for employing any other than a bricklayer to do bricklayer's work. Similar objects and rules are amongst those put forward by the General Society of Operative Plasterers, who seek to protect themselves from the "vast influx of boys and men, who are not plasterers," introduced into the trade "by selfish and unprincipled speculators in our labour." Many of such rules, and especially the means by which they are carried into operation, are now proved to be at variance with what is the liberty of the subject and the law of the land. This view of the case has been put before a deputation of intelligent men representing the society of masons, in an interview which lasted six or eight hours of one of the days in this week subsequent to that of the meeting of the masters, whereat the masons had submitted through Mr. Myers, a proposition to resume work on the hours of labour as previous to the dispute, the masters to dispense with the "declaration." This offer having been courteously declined by the committee, on the ground that the difficulties in the way of withdrawing the "declaration" which had been taken by nearly 8,000 men, were insuperable; it was proposed to the deputation at the subsequent interview which we have mentioned, that the Operative Society should assent to the revision of their rules by some high legal authority, and to the excision from them of all matter at variance with the law of the land, whereupon the necessity for the "declaration" would no longer exist. This not having met with the approval of the masons in the form in which it was put, it was resolved, at a meeting, held at the Freemason's Tavern, just as we were going to press,—

"That the Masons' deputation be informed that the Central Association consider that the most practicable method of arriving at an adjustment of differences would be the revision of such rules and bye-laws, *in so far as they affect the employers and employed*, within the Metropolitan Postal District, as shall be considered by some eminent impartial authority to be contrary to the spirit of the law of the land; and that in particular all rules and practices should be removed which interfere with the freedom of workmen, or prevent members of Trades Unions from working with other workmen."

The masons were to meet the same evening, to receive the report of their deputation.

We believe the interviews were conducted in the most amicable spirit on both sides; and we are only led to ask, if the masters could find the way to relax such of their rules as may have prevented access of previous deputations to them, why some means of coming to the present favourable position could not have been found earlier. The chief credit of the approximation must certainly be considered due to Mr. Harnott and the other representatives of the masons. Considerable difference prevailed within the last week amongst the London men with reference to abandonment of the nine hours; but this we are assured on the part of the masters has been now unreservedly made by the masons.

The particulars of the negotiation are instructive, as showing the advantage of these personal communications or agencies of conciliation, which we lately showed would so much lessen the probability of disputes. The view may be right that *arbitration* is not to be looked to in disputes between masters and workmen; that it would be equivalent to a sacrifice of just rights; and the reasons which induced Lord Cranworth to decline to arbitrate in the engineers' strike in 1852 are perfectly correct. We wish we could quote the whole letter,—but Lord Cranworth said, "I cannot wonder that the masters refuse to agree to any arbitration that is to impose on them any restriction whatever as to the terms on which they are to contract with their men. No one ought to presume to define such terms any more than to bind the men as to the terms which they ought to submit to in favour of the masters. The obvious duty and interest of the men is to treat the matter as a mere question of bargain." And he continues:—"If once they do that—if once they allow that the master is at liberty to propose his own terms, and the workman to accept or reject them, I should think the masters would, I am sure they ought, to be quite ready to listen to any suggestions of the men as to any modifications of the system which should be more agreeable to them, without infringing on the free agency of their employers." But this non-acceptance of *arbitration* as in place in the matter of disputes between masters and workmen, says nothing to controvert the belief that effectual means might be adopted for *conciliation*, or for the prevention of disputes altogether. The best means were shown in Mr. Mackinnon's committee to be personal communication between the master and his men; and we have already stated our impression that in this respect, at the outset of the strike, there was something wanting that might have prevented what occurred, and those consequences which remain. The act of unfairness by which one firm would have been placed at a disadvantage in competition, was, however, properly met.

In addition to the proposal of the masons on Tuesday last, one was made by the Conference—being brought to the notice of the masters' committee by Mr. Jay. It was to the effect that the men will resume work upon the withdrawal of the "declaration," leaving the question which was at issue on the 6th of August to be settled by a committee of six members of the Central Association, and six of the Conference. Upon this proposal, the committee resolved, as reported, that the Conference being an irresponsible body, and their proceedings having been entirely illegal, the committee could not recognize them as a proper medium of communication between the Association and their workmen. It was hardly to be expected that the masters would be satisfied that the matter in dispute should revert to the old position: they could then only look to the necessity of going over the old ground again.

Though the questions in dispute cannot be considered as settled, and may even remain open for weeks, the withdrawal of the masons from the Conference, and the conciliatory spirit which prevails as regards this one branch of the operatives, constitute a more hopeful position than has existed since the strike commenced.

A SKETCH OF THE FALCON GLASS WORKS.

In days gone by, when only one bridge crossed the Thames at London; when Shakspeare might have taken his sculler at the Temple, and been rowed over to the Globe Theatre; when the Beargardens were in their glory, and rank and fashion flocked to Bankside to witness brutal sports; then glass was an expensive luxury, only to be obtained by the most affluent; and the neighbourhood on the south side of the Thames, between London and Blackfriars bridges, presented a very different appearance to the busy scene to be noticed in our own time.

The old palace of the Bishop of Winchester, and nearly all traces of the buildings erected in Queen Elizabeth's days, have passed away, and busy manufactories of various kinds, wharfs and warehouses, skirt this portion of the Thames.

Amongst the most noticeable of these works is the *flint* glass manufactory of Messrs. Pellatt & Co. to which we now wander, thinking of those days when even windows of horn were luxuries; when it was the custom of the nobility to remove the glazing of their residences from place to place with the same care as the plate and other valuables.

Glass now, thanks to the efforts of science and enterprise, is available for the use of both rich and poor. It is not only a comfort and thing of beauty in our dwellings, but is made available for a hundred other useful and domestic purposes. Common as this commodity now fortunately is, few think or even know of the care, skill, and study required to bring it to its present state of cheapness and perfection. Let us, then, with the kind permission of the proprietors, enter the "Falcon Glass Works," remembering, amongst other things, that glass is made not only greatly to conduce to the comfort and convenience of man, but by extending his views to other worlds, enables him to form some conception of their multitude, and to trace the laws by which their motions are governed, whilst his ideas are enlarged by viewing the mechanicism of the most minute objects of creation. Glass is a non-conductor of electricity, and has also the property of resisting most acids and alkalis, and is therefore an object of great importance to the chemist and manufacturer. With the exception of the diamond, all the precious stones are similar in their composition to manufactured glass, being the combination of silica with alkaline earth, which substances can only combine under the influence of heat. Thus informed, we proceed to the chamber in which the raw material for making the flint glass is prepared, and mixed ready for melting.

Here, in a state ready for use, is a large quantity of mixture, of bright scarlet colour, which consists of five ingredients, viz. sand, which forms the chief body; red lead, which gives the scarlet colour, that evaporates on exposure to the heat of melting; potash (prepared from seaweed); saltpetre; and a small quantity of the oxide of manganese. These ingredients, with one exception, are brought from various and distant parts of the world. The sand used at this manufactory is brought from the Forest of Fontainebleau, and is preferable to any other. In former times conglomerated silica (flint), was used for glassmaking: experience has, however, shown that this body granulated as sand is better adapted for the purpose. The grain of the sand is required to be even and regular, because if large it needs an excess of alkali and fuel, and if the division be too minute, it is apt to conglomerate in melting, in which state the alkali fails to attach the masses, which remain in the glass as white specks. Lynn river, Alum Bay, Isle of Wight, and Aylesbury, Buckinghamshire, were amongst the places famous for the supply of this article, but since the repeal of the French export duty, the neighbourhood of Fontainebleau has supplied the principal glassworks in Europe. This sand when washed and baked for the purpose of depriving it of carbonaceous matter, is of a beautiful colour, a little whiter than cream-colour, and remarkably fine in grain.

The red lead is carefully manufactured near Birmingham.

The potash-alkali for glassmaking is brought from Montreal, in America, but is refined in London, until it becomes "98" of purity. The oxide of manganese is also brought from America.

The usual formula for flint glass is one part by weight of alkali, two of lead, and three of sand. The quantity of the oxide of manganese used is very small, but no good flint glass can be made without it. If all the materials used for making this description of glass were pure, it would not be colourless without the manganese, for invariably a green tint would be produced by deoxidation; the greater the degree of heat, the greater the amount of deoxidation, and consequently the deeper the tint. To prevent this the oxide of manganese is used; it holds combined a large amount of oxygen, and has the property of parting with it very slowly, and supplies to the other materials, during the fusion, sufficient oxygen to maintain them in a certain state of oxygenation, in which state only a colourless glass can be obtained; if too much of this oxide is used, the glass is of a purple tint.

A very small quantity of the oxide of manganese changes the tint of a large body of melted glass; one quarter of an ounce making a visible difference in 16 cwt. of glass.

The materials, after having been carefully weighed, are then intimately mixed, and upon this the homogeneity of the melted mass depends; homogeneity is one of the great desiderata in glass.

Although the mixing of the materials for making the glass is a process requiring simply great care, the supply of the exact proportions demands the greatest judgment and experience; the condition of the weather, the quality of the fuel, and other matters have to be carefully considered. This delicate operation is performed by Mr. Pellatt himself, and upon the nicety of this preparation the quality of the glass in a great measure depends.

Near the mixing-room, where the various materials are stored, parties are at work washing, cleaning, and sorting broken and old glass, which is purchased at about 10*l.* a ton from the marine store dealers. The old glass is broken up, and mixed with a portion of the new materials: this is used for glass of an ordinary quality; for the very best glass virgin materials only are used. Before leaving this part of the manufactory it will be worth while to note the means by which the varied colours of glass are produced.

Iron, cobalt, manganese, gold, and uranium, are the metals used for colouring glass; and these bases, in combination with various propertions of oxygen, produce all the coloured glass in general use.

The ordinary shades of green are the product of the oxides of iron and copper in different proportions; the yellow tint is due to the iron, and the blue tint to the copper. The carburet of iron gives a dull yellow colour; blue is produced by the oxide of cobalt; purple by the oxide of manganese; and the varieties of rose and ruby by the oxide of gold; topaz is given by the oxide of uranium; and emerald-green by the same metal, with the addition of a small quantity of copper. Glass is rendered opaque by the addition of arsenic; and the peculiar colour of the opal is produced by the phosphate of lime. The quality of all colour in glass is the result of a proper degree of heat during the fusion of the materials. A variety of colours upon the same article is produced by a thin coating of each being united in the manipulation, so that in the after process of cutting, one colour or more is made to appear as is desired.

In the furnace used for melting the glass nine or ten crucibles, or pots, are fixed; these are composed of the finest Stourbridge fire clay, which contains 6½ parts silica and 3½ parts alumina. Care is required to get rid of all impurities, for the smallest speck or air bubble, even a hair, is liable to make a fracture in the pot, and cause much loss and trouble. These melting crucibles, when tempered and ready for use, are worth 10*l.* and upwards, each. When required to be set in the furnace, they are gradually dried and heated to a great heat.

The time these pots last is uncertain. The setting of one of them is attended with great heat, and requires the assistance of all the workmen in this part of the establishment. Some of the pots contain from 15 cwt. to a ton of metal, which is worth about 50*l.*; this is liable to be wasted by fracture of one of the vessels. Carefully stored are a variety of those crucibles of different ages, waiting to be used in case of any emergency.*

Before visiting the furnace it is worth while to descend to a long dark chamber open to the air, that leads to the fire-grate, which by its glaring heat fuses the glass. This air tunnel admits the only current of air which is supplied. The fire, in which coke is now used instead of coal, is kept burning night and day, and from year to year, so long as the furnace lasts,—a period of from five to ten years. In old times, in England, there was a superstition that if a fire was kept burning for seven years, an animal, called a salamander, would be generated, which would be both terrible and dangerous! This creature, said to be of the dragon species, is evidently extinct in modern times; for those who have stoked these furnace fires for longer than the stated period have not seen a specimen!

Returning again to the glass-house floor, we are told that the glass-blowers discontinue their work on each Thursday night, when any metal remaining in the pots is taken out and poured into water. This causes the glass to break into pieces, and then the pure portions are taken out and sorted for remelting. Each pot or crucible is afterwards filled with the mixture which has been already described: this, by the heat, so much decreases in bulk that the pots require filling three times. During the melting, which occupies about sixty hours, the glass assumes various appearances. After the first ten or twelve hours it appears a honeycombed mass, very white and perfectly opaque. These appearances yield to a transparent body filled with a thousand air bubbles; the white colour now gives place to a light purple tint, produced by the oxygen given off from the manganese. As the melting continues, the purple tint gradually vanishes, the air bubbles become fewer and larger, and at length quite disappear when the glass is fined ready for use.

In melting glass the heat required is intense. All the crevices around the furnace are luted up, and the draught is obtained in the manner just described. It is necessary that the heat should be evenly distributed throughout the whole furnace, and cause a reverberation of the flame from the centre or grate-room of the furnace, as much as possible to all points of the circumference. For this and other reasons, it has been found that the circular form is the most desirable for the manufacture of flint glass, and the most economical as regards the supply of fuel.

Around the furnace, which has been properly charged, is a busy scene. At each of the ten apertures, which, like so many blazing eyes, shine and throw out an intense light and heat, the glass-blowers are at work, fashioning, in the most wonderful mannner, different objects, some of them of great beauty. In one part the workmen are forming wine-glasses; in another, tumblers, or decanters. The liquid flint glass seen through the orifice of the pot is of a bright yellow colour, and looks opaque. On touching the burning metal with one end of the pipe used for blowing the glass, it seems to be of a consistence equal to very thick paint; on turning round the pipe, the fused glass readily adheres to it, and with ease either large or small quantities can be taken from the pot. This part of the operation requires much skill and experience, and it seems wonderful with what exactness the proper quantity of hot glass is gathered for the particular work in hand.

The tools used for glass-blowing are very simple, and consist of a blowing iron; the workman's chair; a flat slab of metal, on which the glass is rolled into something like its intended shape; an iron rod, of about the same length as the blow-pipe; callipers, for gauging the diameter of various parts of the objects to be made; there are other measures marked for the height, &c.; also shears or scissors; the battledoor, a flat instrument used for squaring the bottoms, and the pincers, for taking hold of the work after it has been removed from the blow-pipe or rod. The proper quantity of glass having been taken upon the pipe, the workman proceeds to roll it on the slab just mentioned, and then, by a sort of instinct, to blow it into shape. While admiring the remarkable exactness with which the men perform this beautiful operation, and looking with surprise at the shapeless piece of glass assuming its intended form, we are reminded that glass-blowing is turning, with this exception, that besides an action upon the outer surface by compression, the reverse action may be used when required, viz. expansion from the interior by blowing. Every shape that can be turned by a simple lathe can be produced in glass by blowing.

As the glass cools the opaque appearance, which it has in the furnace, changes, and it appears as clear as crystal.

When in the hands of the glass-blowers the metal while hot can be severed either perpendicularly or horizontally, by drawing a cold iron point across it. The glass can also be cut with a pair of scissors almost as readily as cloth. It can be drawn to the fineness of the smallest thread, or blown to such a degree of thinness that the particles float lightly in air. In the manufacture of tumblers, when the glass has been blown to a certain size, and the bottom flattened with the battledore, it is carefully gauged at the bottom and in the middle. A small quantity of glass is then gathered from the furnace on the point of the iron rod already referred to; and as it is a property of glass at a red heat, that one piece can be welded to another by mere contact, it is easy to fix the piece of hot glass on the rod to the bottom of the tumbler. The cold iron point is then applied near the end of the blow-pipe, and the yet unshapely tumbler is quickly separated from it. The glass has now something of the appearance of a round-bellied unfinished bottle; the required height is measured by the gauge, and the superfluous glass cut off with the scissors. The tumbler is put within the glowing heat of the furnace, is turned rather rapidly round, and the contracted part gradually expands, and becomes of the required shape. It is then taken out, straightened, and finished with a wooden instrument; compared with the pattern, and weighed in a balance provided for that purpose. It is singular to notice, that thousands of glasses of this description are made which will contain as nearly as possible the same quantity of liquid, and scarcely vary in weight, by the same process. Glass vessels of all sizes, and of circular shapes, are thus produced. The drops and other portion of chandeliers and other solid substances, are cast in moulds; square bottles, with names upon them, are formed by being blown into moulds which have been deeply engraved. The moulds open in the middle to allow the hot glass attached to the blow-pipe to be admitted, and the bottle to be taken out when set.

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little which would lead to supposition of the practices which are most notorious on the occasion of strikes—did not such practices, and indeed every sort of intimidation and violence follow naturally from the effort to carry the rules into practice. So long as the societies pursue their objects by means which are of the nature of a despotism, and are inconsistent with true liberties of the people, so long will the title of the operative classes to representation in the legislature be withheld from them.

Looking at the rules of the Operative Masons' Society, which as a benefit society is well conducted, and is in many respects a model of organization, we find that after expressing that one of the chief objects of the society is "to regulate the price and lessen the hours of labour," and "to bring into practice among its members the truly valuable object of a self-protecting power against the selfish and unprincipled proceedings of the capitalist,"—fallacies of principle thus disclosing themselves at the outset,—they provide for publication, annually, of a "black list;" for the abolition of overtime, tending as they say to general injury of the members by keeping some out of employment, and for fines on members who persist in so working; for restricting employers in several matters, as "introducing individuals not of the trade," and for resisting "such infringements" as the refusal of non-members to contribute to the society. The Progressive Society of Operative Carpenters and Joiners seem to have their rules framed on similar principles; and the "General Laws of the Metropolitan Society of Operative Bricklayers," 1857, say—"That shall a bricklayer who has at any time gone to work on a job when a strike has taken place (sanctioned by this society) go to work with members of this society, the said members may resist the same (if they cannot come to any satisfactory arrangement with the said 'black'), by first making application to the foreman or master, as the case may be, for the immediate discharge of the said 'black;' and if he will not comply, the members shall be empowered to strike and picket the job at the time," &c. Another law imposes a fine for taking taskwork, or for employing any other than a bricklayer to do bricklayer's work. Similar objects and rules are amongst those put forward by the General Society of Operative Plasterers, who seek to protect themselves from the "vast influx of boys and men, who are not plasterers," introduced into the trade "by selfish and unprincipled speculators in our labour." Many of such rules, and especially the means by which they are carried into operation, are now proved to be at variance with what is the liberty of the subject and the law of the land. This view of the case has been put before a deputation of intelligent men representing the society of masons, in an interview which lasted six or eight hours of one of the days in this week subsequent to that of the meeting of the masters, whereat the masons had submitted through Mr. Myers, a proposition to resume work on the hours of labour as previous to the dispute, the masters to dispense with the "declaration." This offer having been courteously declined by the committee, on the ground that the difficulties in the way of withdrawing the "declaration" which had been taken by nearly 8,000 men, were insuperable; it was proposed to the deputation at the subsequent interview which we have mentioned, that the Operative Society should assent to the revision of their rules by some high legal authority, and to the excision from them of all matter at variance with the law of the land, whereupon the necessity for the "declaration" would no longer exist. This not having met with the approval of the masons in the form in which it was put, it was resolved, at a meeting, held at the Freemason's Tavern, just as we were going to press,—

"That the Masons' deputation be informed that the Central Association consider that the most practicable method of arriving at an adjustment of differences would be the revision of such rules and bye-laws, *in so far as they affect the employers and employed*, within the Metropolitan Postal District, as shall be considered by some eminent impartial authority to be contrary to the spirit of the law of the land; and that in particular all rules and practices should be removed which interfere with the freedom of workmen, or prevent members of Trades Unions from working with other workmen."

The masons were to meet the same evening, to receive the report of their deputation.

We believe the interviews were conducted in the most amicable spirit on both sides; and we are only led to ask, if the masters could find the way to relax such of their rules as may have prevented access of previous deputations to them, why some means of coming to the present favourable position could not have been found earlier. The chief credit of the approximation must certainly be considered due to Mr. Harnott and the other representatives of the masons. Considerable difference prevailed within the last week amongst the London men with reference to abandonment of the nine hours; but this we are assured on the part of the masters has been now unreservedly made by the masons.

The particulars of the negotiation are instructive, as showing the advantage of these personal communications or agencies of conciliation, which we lately showed would so much lessen the probability of disputes. The view may be right that *arbitration* is not to be looked to in disputes between masters and workmen; that it would be equivalent to a sacrifice of just rights; and the reasons which induced Lord Cranworth to decline to arbitrate in the engineers' strike in 1852 are perfectly correct. We wish we could quote the whole letter,—but Lord Cranworth said, "I cannot wonder that the masters refuse to agree to any arbitration that is to impose on them any restriction whatever as to the terms on which they are to contract with their men. No one ought to presume to define such terms any more than to bind the men as to the terms which they ought to submit to in favour of the masters. The obvious duty and interest of the men is to treat the matter as a mere question of bargain." And he continues:—"If once they do that—if once they allow that the master is at liberty to propose his own terms, and the workman to accept or reject them, I should think the masters would, I am sure they ought, to be quite ready to listen to any suggestions of the men as to any modifications of the system which should be more agreeable to them, without infringing on the free agency of their employers." But this non-acceptance of *arbitration* as in place in the matter of disputes between masters and workmen, says nothing to controvert the belief that effectual means might be adopted for *conciliation*, or for the prevention of disputes altogether. The best means were shown in Mr. Mackinnon's committee to be personal communication between the master and his men; and we have already stated our impression that in this respect, at the outset of the strike, there was something wanting that might have prevented what occurred, and those consequences which remain. The act of unfairness by which one firm would have been placed at a disadvantage in competition, was, however, properly met.

In addition to the proposal of the masons on Tuesday last, one was made by the Conference—being brought to the notice of the masters' committee by Mr. Jay. It was to the effect that the men will resume work upon the withdrawal of the "declaration," leaving the question which was at issue on the 6th of August to be settled by a committee of six members of the Central Association, and six of the Conference. Upon this proposal, the committee resolved, as reported, that the Conference being an irresponsible body, and their proceedings having been entirely illegal, the committee could not recognize them as a proper medium of communication between the Association and their workmen. It was hardly to be expected that the masters would be satisfied that the matter in dispute should revert to the old position: they could then only look to the necessity of going over the old ground again.

Though the questions in dispute cannot be considered as settled, and may even remain open for weeks, the withdrawal of the masons from the Conference, and the conciliatory spirit which prevails as regards this one branch of the operatives, constitute a more hopeful position than has existed since the strike commenced.

A SKETCH OF THE FALCON GLASS WORKS.

In days gone by, when only one bridge crossed the Thames at London; when Shakspeare might have taken his sculler at the Temple, and been rowed over to the Globe Theatre; when the Beargardens were in their glory, and rank and fashion flocked to Bankside to witness brutal sports; then glass was an expensive luxury, only to be obtained by the most affluent; and the neighbourhood on the south side of the Thames, between London and Blackfriars bridges, presented a very different appearance to the busy scene to be noticed in our own time.

The old palace of the Bishop of Winchester, and nearly all traces of the buildings erected in Queen Elizabeth's days, have passed away, and busy manufactories of various kinds, wharfs and warehouses, skirt this portion of the Thames.

Amongst the most noticeable of these works is the *flint* glass manufactory of Messrs. Pellatt & Co. to which we now wander, thinking of those days when even windows of horn were luxuries; when it was the custom of the nobility to remove the glazing of their residences from place to place with the same care as the plate and other valuables.

Glass now, thanks to the efforts of science and enterprise, is available for the use of both rich and poor. It is not only a comfort and thing of beauty in our dwellings, but is made available for a hundred other useful and domestic purposes. Common as this commodity now fortunately is, few think or even know of the care, skill, and study required to bring it to its present state of cheapness and perfection. Let us, then, with the kind permission of the proprietors, enter the "Falcon Glass Works," remembering, amongst other things, that glass is made not only greatly to conduce to the comfort and convenience of man, but by extending his views to other worlds, enables him to form some conception of their multitude, and to trace the laws by which their motions are governed, whilst his ideas are enlarged by viewing the mechanicism of the most minute objects of creation. Glass is a non-conductor of electricity, and has also the property of resisting most acids and alkalis, and is therefore an object of great importance to the chemist and manufacturer. With the exception of the diamond, all the precious stones are similar in their composition to manufactured glass, being the combination of silica with alkaline earth, which substances can only combine under the influence of heat. Thus informed, we proceed to the chamber in which the raw material for making the flint glass is prepared, and mixed ready for melting.

Here, in a state ready for use, is a large quantity of mixture, of bright scarlet colour, which consists of five ingredients, viz. sand, which forms the chief body; red lead, which gives the scarlet colour, that evaporates on exposure to the heat of melting; potash (prepared from seaweed); saltpetre; and a small quantity of the oxide of manganese. These ingredients, with one exception, are brought from various and distant parts of the world. The sand used at this manufactory is brought from the Forest of Fontainebleau, and is preferable to any other. In former times conglomerated silica (flint), was used for glassmaking: experience has, however, shown that this body granulated as sand is better adapted for the purpose. The grain of the sand is required to be even and regular, because if large it needs an excess of alkali and fuel, and if the division be too minute, it is apt to conglomerate in melting, in which state the alkali fails to attach the masses, which remain in the glass as white specks. Lynn river, Alum Bay, Isle of Wight, and Aylesbury, Buckinghamshire, were amongst the places famous for the supply of this article, but since the repeal of the French export duty, the neighbourhood of Fontainebleau has supplied the principal glass-works in Europe. This sand when washed and baked for the purpose of depriving it of carbonaceous matter, is of a beautiful colour, a little whiter than cream-colour, and remarkably fine in grain.

The red lead is carefully manufactured near Birmingham.

The potash-alkali for glassmaking is brought from Montreal, in America, but is refined in London, until it becomes "93" of purity. The oxide of manganese is also brought from America.

The usual formula for flint glass is one part by weight of alkali, two of lead, and three of sand. The quantity of the oxide of manganese used is very small, but no good flint glass can be made without it. If all the materials used for making this description of glass were pure, it would not be colourless without the manganese, for invariably a green tint would be produced by deoxidation; the greater the degree of heat, the greater the amount of deoxidation, and consequently the deeper the tint. To prevent this the oxide of manganese is used; it holds combined a large amount of oxygen, and has the property of parting with it very slowly, and supplies to the other materials, during the fusion, sufficient oxygen to maintain them in a certain state of oxygenation, in which state only a colourless glass can be obtained; if too much of this oxide is used, the glass is of a purple tint.

A very small quantity of the oxide of manganese changes the tint of a large body of melted glass; one quarter of an ounce making a visible difference in 16 cwt. of glass.

The materials, after having been carefully weighed, are then intimately mixed, and upon this the homogeneity of the melted mass depends; homogeneity is one of the great desiderata in glass.

Although the mixing of the materials for making the glass is a process requiring simply great care, the supply of the exact proportions demands the greatest judgment and experience; the condition of the weather, the quality of the fuel, and other matters have to be carefully considered. This delicate operation is performed by Mr. Pellatt himself, and upon the nicety of this preparation the quality of the glass in a great measure depends.

Near the mixing-room, where the various materials are stored, parties are at work washing, cleaning, and sorting broken and old glass, which is purchased at about 10*l.* a ton from the marine store dealers. The old glass is broken up, and mixed with a portion of the new materials: this is used for glass of an ordinary quality; for the very best glass virgin materials only are used. Before leaving this part of the manufactory it will be worth while to note the means by which the varied colours of glass are produced.

Iron, cobalt, manganese, gold, and uranium, are the metals used for colouring glass; and these bases, in combination with various propertions of oxygen, produce all the coloured glass in general use.

The ordinary shades of green are the product of the oxides of iron and copper in different proportions; the yellow tint is due to the iron, and the blue tint to the copper. The carburet of iron gives a dull yellow colour; blue is produced by the oxide of cobalt; purple by the oxide of manganese; and the varieties of rose and ruby by the oxide of gold; topaz is given by the oxide of uranium; and emerald-green by the same metal, with the addition of a small quantity of copper. Glass is rendered opaque by the addition of arsenic; and the peculiar colour of the opal is produced by the phosphate of lime. The quality of all colour in glass is the result of a proper degree of heat during the fusion of the materials. A variety of colours upon the same article is produced by a thin coating of each being united in the manipulation, so that in the after process of cutting, one colour or more is made to appear as is desired.

In the furnace used for melting the glass nine or ten crucibles, or pots, are fixed; these are composed of the finest Stourbridge fire clay, which contains 6½ parts silica and 3½ parts alumina. Care is required to get rid of all impurities, for the smallest speck or air bubble, even a hair, is liable to make a fracture in the pot, and cause much loss and trouble. These melting crucibles, when tempered and ready for use, are worth 10*l.* and upwards, each. When required to be set in the furnace, they are gradually dried and heated to a great heat.

The time these pots last is uncertain. The setting of one of them is attended with great heat, and requires the assistance of all the workmen in this part of the establishment. Some of the pots contain from 15 cwt. to a ton of metal, which is worth about 50*l.*; this is liable to be wasted by fracture of one of the vessels. Carefully stored are a variety of those crucibles of different ages, waiting to be used in case of any emergency.*

Before visiting the furnace it is worth while to descend to a long dark chamber open to the air, that leads to the fire-grate, which by its glaring heat fuses the glass. This air tunnel admits the only current of air which is supplied. The fire, in which coke is now used instead of coal, is kept burning night and day, and from year to year, so long as the furnace lasts,—a period of from five to ten years. In old times, in England, there was a superstition that if a fire was kept burning for seven years, an animal, called a salamander, would be generated, which would be both terrible and dangerous! This creature, said to be of the dragon species, is evidently extinct in modern times; for those who have stoked these furnace fires for longer than the stated period have not seen a specimen!

Returning again to the glass-house floor, we are told that the glass-blowers discontinue their work on each Thursday night, when any metal remaining in the pots is taken out and poured into water. This causes the glass to break into pieces, and then the pure portions are taken out and sorted for remelting. Each pot or crucible is afterwards filled with the mixture which has been already described: this, by the heat, so much decreases in bulk that the pots require filling three times. During the melting, which occupies about sixty hours, the glass assumes various appearances. After the first ten or twelve hours it appears a honeycombed mass, very white and perfectly opaque. These appearances yield to a transparent body filled with a thousand air bubbles; the white colour now gives place to a light purple tint, produced by the oxygen given off from the manganese. As the melting continues, the purple tint gradually vanishes, the air bubbles become fewer and larger, and at length quite disappear when the glass is fined ready for use.

In melting glass the heat required is intense. All the crevices around the furnace are luted up, and the draught is obtained in the manner just described. It is necessary that the heat should be evenly distributed throughout the whole furnace, and cause a reverberation of the flame from the centre or grate-room of the furnace, as much as possible to all points of the circumference. For this and other reasons, it has been found that the circular form is the most desirable for the manufacture of flint glass, and the most economical as regards the supply of fuel.

Around the furnace, which has been properly charged, is a busy scene. At each of the ten apertures, which, like so many blazing eyes, shine and throw out an intense light and heat, the glass-blowers are at work, fashioning, in the most wonderful mannner, different objects, some of them of great beauty. In one part the workmen are forming wine-glasses; in another, tumblers, or decanters. The liquid flint glass seen through the orifice of the pot is of a bright yellow colour, and looks opaque. On touching the burning metal with one end of the pipe used for blowing the glass, it seems to be of a consistence equal to very thick paint; on turning round the pipe, the fused glass readily adheres to it, and with ease either large or small quantities can be taken from the pot. This part of the operation requires much skill and experience, and it seems wonderful with what exactness the proper quantity of hot glass is gathered for the particular work in hand.

The tools used for glass-blowing are very simple, and consist of a blowing iron; the workman's chair; a flat slab of metal, on which the glass is rolled into something like its intended shape; an iron rod, of about the same length as the blow-pipe; callipers, for gauging the diameter of various parts of the objects to be made; there are other measures marked for the height, &c.; also shears or scissors; the battledoor, a flat instrument used for squaring the bottoms, and the pincers, for taking hold of the work after it has been removed from the blow-pipe or rod. The proper quantity of glass having been taken upon the pipe, the workman proceeds to roll it on the slab just mentioned, and then, by a sort of instinct, to blow it into shape. While admiring the remarkable exactness with which the men perform this beautiful operation, and looking with surprise at the shapeless piece of glass assuming its intended form, we are reminded that glass-blowing is turning, with this exception, that besides an action upon the outer surface by compression, the reverse action may be used when required, viz. expansion from the interior by blowing. Every shape that can be turned by a simple lathe can be produced in glass by blowing.

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* Portions of the old pots ground up and mixed with fresh clay are found to give a better product than what is altogether composed of the fresh materials.

would be made if such workmen were in future trained in the schools of art. In America, we are told, glass cutters and engravers are nearly all able to draw and design. If this were generally the case in England, where the flint is so suitable for the purpose of glass-making that it insures, if proper means be used, a supply of flint-glass more pure than can be made in any other country in the world, we should hit upon such designs and new combinations of ornament and form as would prevent the fear of foreign competition in the British market. The artistic education of the eye would have the effect of causing the blowers to produce, with greater certainty, refined forms. On inquiring of some of the glass-cutters the effect which the introduction of steam power had on the wages of the workmen, we were told that, although they could produce three times the quantity—which of course enables the manufacturers to sell the article at a cheaper rate—the men can earn better wages than in the days when the old-fashioned lathes, turned by the foot, were in use. The labour is also less; and, in consequence of the men not being required to keep the foot and leg in action in moving the treddle, they are able to cut the glass with greater precision. The old lathe of the glass-cutter, as well as that of the potter, will before long be entirely out of use. It might be worth while to secure one of them for the purpose of placing it amongst the curiosities and machinery in the Brompton Museum. The grinding of the necks of air-tight bottles, and the stoppers and other operations are going forward. We must, however, pass them by, and glance at the show-rooms, where are stored many remarkable examples of the brilliancy of the glass made here. Models of the Koh-i-noor, and other celebrated diamonds, which look not less pure and sparkling than the originals. Large masses of flint-glass are exhibited, cut in such forms as to produce rainbow hues, most pleasing to the eye. It seems strange that from the opaque mass of sand, lead, and other material, a thing, in itself so colourless, pure, and lasting, can be produced. Various vessels of glass have been modelled on Etruscan and Greek forms, and cut in the proper patterns. When looking at these, and considering that the glass-blower must do his work at once — he cannot as an after-thought add a little or take away—the elegance of some of these forms seems surprising. There are other shapes which an artist might consider more choice, but manufacturers are obliged to suit various tastes.

While here we were enabled to solve a difficulty which has often arisen. Most persons have noticed that the surface of some kinds of looking-glasses becomes dull with a sort of mildew, and requires constant rubbing and cleaning. The same effect may be observed in windows: one square will require twice the trouble of the others, and yet not look so well. Wine glasses and decanters are affected with the same dulness; they seem to get coated over the surface with this impurity in the same manner as most metals do in damp places. Glass properly made, as has already been stated, is almost imperishable. The Portland vase, said to be about 1,600 years old, is still perfect in surface and details. The sweating of glass, which is an indication of decay, is caused by some manufacturers—considering the saving of cost—using soda in the composition of their glass instead of or with potash; and although at first no difference in quality can be detected, yet eventually it will be found that the glass is rendered useless thereby, from the minute but perceptible exudation of soda appearing like a vapour upon the surface. If water be used in this description of glass containing carbonate of lime, such glass is soon covered with an opaque coating which cannot be removed. This arises from the water having a greater affinity for the soda in the glass than for the lime which it holds in solution; the soda is therefore taken up by the water, and the lime deposited on the glass. Examples of this imperfect glass may be seen, covered thickly with a sort of crystalline substance: the glass, in time, cracks and falls to pieces. This should be a hint to housewives and others who use large quantities of glass, that owing to the extra breakage and labour of cleaning, the cheap glass formed of wrong materials is the most expensive in the end. In the Falcon Glass-works there appears to be every necessary arrangement for producing the best possible material.

Swansea.—The new Jewish Synagogue is ready for use. The builder is Mr. Holtham, of Bath.

BYZANTIUM AND ITS ARCHITECTURE.*

It was the eastern promontory, forming the first of the fourteen "regions," into which the city of Constantinople was formerly divided, and now occupied by the seraglio, that formed the site of ancient Byzantium; though, in all probability, the city extended over the three adjoining regions, which formed the western boundary of the triangle. The new wall of Constantine extended from the Golden Horn to the Propontis, at the distance of fifteen stadia from the ancient fortifications, and, with the city of Byzantium, enclosed five of the seven hills which reflected that time-honoured characteristic of old Rome. The rapid growth of the new city beyond the limits assigned to it by its founder, demanded a corresponding extension of its fortifications, and its increase along the harbour on the one side, and the Propontis on the other, suggested, during the minority of the younger Theodosius, about a century after its foundation, the necessity of protecting these suburbs, and the whole city, with a permanent enclosure of walls. The old fortifications were, therefore, razed, and the new wall constructed, in the year 413, by Anthemius, the Prætorian Prefect. In 447 it was thrown down by an earthquake, and rebuilt in three months by the diligence of the Prefect Cyrus. This double line of strong and lofty stone walls has, on the sea and harbour sides, in many places disappeared, but upon the land side, where it becomes tripled, it still exists in a dilapidated state, extending from the port to the Sea of Marmora, for about four English miles, presenting here and there magnificent and picturesque specimens of mural ruins. The Sycæ or fig-trees formed the thirteenth region, beyond the harbour, and the suburb of Blachirnæ was not included in the city till the reign of Heraclius. The modern city includes Scutari, on the Asiatic shore, famed for its cemetery. Galata, the largest of the suburbs, and the principal seat of commerce, was not enclosed with walls until the fourteenth century. Pera, so named from the Greek πέρα, *beyond*, as regards Galata, is the seat of diplomacy, but is almost devoid of Oriental character in its buildings.

The present appearance of Stamboul, Galata, and Pera, has been so recently and so well described in this journal by Mr. Burges, in his "Architectural Reminiscences at Constantinople," that further remarks upon the matter are unnecessary. In spite of the efforts made by its founder to render his new city the focus of attraction for his subjects, its population never became considerable as compared with ancient Rome and modern capitals; and the Christian population was not estimated by Chrysostom at more than 100,000.

The fondly-cherished hopes of Constantine, that his new capital might prove a second Rome, were not destined to be realized. With the reign of Arcadius the virtual separation of the East and West was consummated; and though the lower empire still affected the name and attributes of the Roman nation, yet, in renouncing the language and the soil of Italy, each successive year but weakened the claims of the Greeks to a relationship which the Latins ultimately repudiated altogether. Up to the second capture of Constantinople by the Venetians and the French, in 1204, Constantinople remained the capital of the eastern, or lower Roman empire. It then became the seat of the Latin empire, until 1261, when it again fell into the undisputed possession of the Greeks, under whose rule it continued until the last of the Palæologi fell beneath the walls of his capital, exclaiming with his last breath, "Θέλω ζαντεῖν μᾶλλον ἢ ζῆν."

> "O thou last Cæsar! greater midst thy tears
> Than all thy laurell'd and renown'd compeers,
> I see thee yet: I see thee kneeling where
> The Patriarch lifts the cup and breathes the prayer;
> Now, in the tempest of the battle's strife,
> Where trumpets drown the shrieks of parting life;
> Now, with a thousand wounds upon thy breast,
> I see thee pillow thy calm head in rest,
> And, like a glory-circled martyr, claim
> The wings of Death to speed thy soul from shame."

The military or civil policy of Constantine, after the lapse of ages, may have ceased to influence the present state of European civilization; but the removal of the seat of his government is as firmly linked with the vicissitudes that art and literature have experienced from that day to this, as his conversion is indissolubly connected with the existing religious opinions and interests of the most enlightened portion of mankind. Italy, the favoured nursery of arts and letters, was to be deserted by her children; long periods of desolation and affliction were to prostrate her monuments, fetter for ages her genius, and quench her martial fire for ever; until the germ of beauty, yet lingering in the soil best suited to its development, should once again expand into the goodly tree that has covered with its luxuriant branches all who have sought their shelter. Constantinople had now become the seat of government and the centre of all that was illustrious or celebrated in the state. "*e à Roma,*" says Tiraboschi, "*altro quasi non rimaneva che la magnificenza delle sue fabbriche, e un' ombra apparente di pompa e di maestà. Quindi, per così dire, gli studi passarono da Roma à Constantinopoli, ed ivi fiorirono felicemente, ove sperar potevano ricompensa ed onore.*"

In the translation of the imperial throne from Rome to Byzantium, with all its circumstance of regal pomp, ministerial presence, military display, artistic skill, and ecclesiastical and secular learning, necessary for upholding the dignity of the court of so powerful a monarchy, one would imagine that a sensible effect must have been produced upon the Greek language itself by the infusion of so large a proportion of foreign elements into its constitution. Such, however, does not seem to have been the case. The preference for Greek letters and arts, which had so long prevailed at Rome, accompanied the royal emigrant and his courtiers to the land of their adoption, and that they were more ambitious to adopt the Greek than to diffuse the Latin language, the result can leave no reasonable room for doubt. Indeed, this removal of the seat of empire tended to engender a still further spread of the Greek root than before, as the presence of the imperial court —the fountain of honour and patronage—in the land where the language of its predilection was vernacular, rendered its cultivation and preservation more important than ever. In proof of the prevalent taste for the study of the Greek tongue, we may remember that in the best days of the empire no Greek seems to have written in Latin, though living in Rome and writing on Roman matters; while, on the other hand, the Romans, whilst taste remained, evinced their admiration of Greek by its general cultivation.

Great as were the intrinsic beauties of the language itself, it put forth a higher claim still in its writers; and during the most resplendent period of the Caliphate, the Mahomedans, whilst appropriating portion after portion of the Byzantine empire to their own use, paid willing homage to the superior learning of the Greeks, by enriching their own libraries with the choicest treasures from so capacious a storehouse.

Whilst supplied with ample means for criticising the sparing virtues, ample vices, and political actions of the emperors, the Greek chronicles afford us but little insight into the discordant nationalities and various classes that composed the general mass of Byzantine society. We know that the Greek, Armenian, Sclavonian, and other heterogeneous races, with the prevailing distinctions of freemen, serfs, and slaves, were all blended in unity by the powerful arm of Constantine, though all retaining their own national peculiarities; but the exact share or influence of each separate mass is yet to be ascertained.

Three periods of strongly marked individuality present themselves in Byzantine history. The first embraces the duration of the iconoclast struggle, and includes the period from the commencement of the Isaurian dynasty in 717, to the end of the Amorian dynasty in 867. It exhibits the struggle of the emperors to consolidate the supremacy of the imperial authority, and confirm themselves as the heads of ecclesiastical as well as of civil legislation, the popular resistence to which found expression in a tenacious adherance to image-worship. The salvation of the empire, and indeed of Christianity, from the Saracens, by the skill and courage of Leo III. forms one of the most brilliant exploits of the time. By his unwearied efforts, the power of the Caliphate ceased to be formidable to the empire, until its energy was revived under the Abassides. Amongst the immediate successors of Leo the Isaurian, the warlike but vicious Copnonymus,—the beautiful but cruel Irene, the Athenian,—the battle-slain Nicephorus,—the martyred Leo, the Armenian,—and the accomplished but "unfortunate" Theophilus,—all present instances of a laudable struggle for the furtherance of the national prosperity.

The second period extends from 867 to 1057, and includes the rule of the Basilian dynasty. During this period the Byzantine empire attained its highest pitch of external power and internal prosperity. The Saracens were defeated in Syria, and Antioch and Edessa were reunited to the empire. The Bulgarian monarchy was conquered,

* See p. 404, *ante*.

and the Danube became again the Northern frontier. The Sclavonians in Greece were almost exterminated. Byzantine commerce filled the whole Mediterranean, and established the claim of the emperor to the title of its autocrat, and the sanctity of the law was more fully recognized than it had ever been before.

The third period extends from the accession of Isaac I. (Comnenus) in 1057 to the conquest of the empire by the Crusaders in 1204. "This," says Finlay, "is the true period of the decline and fall of the Eastern empire. It commenced by a rebellion of the great nobles of Asia, who effected an internal revolution in the Byzantine empire by wrenching the administration out of the hands of well-trained officials, and destroying the responsibility created by systematic procedure. A despotism supported by personal influence soon ruined the scientific fabric which had previously upheld the imperial power. The people were ground to the earth by a fiscal rapacity, over which the splendour of the house of Comnenus throws a thin veil. The wealth of the empire was dissipated, its prosperity destroyed, the administration of justice corrupted, and the central authority lost all control over the population, when a band of 20,000 adventurers, masked as Crusaders, put an end to the Roman empire of the East."

The history of the city of Constantinople itself, as regards its architecture, may likewise be divided into three periods:—from its foundation to the reign of Justinian; from Justinian to the Turkish conquest; and from that event to the present day.

Few cities, however, have experienced so ample an allowance of "most disastrous chances." Of the architectural glories of the early city of Constantine, but inflated and unsatisfactory descriptions remain to us: haste in execution, bad construction, fires, earthquakes, revolutions, and the fury of the invader, have levelled to the earth those perishable records of a most interesting period, leaving but scant foundations or doubtful sites to perplex the antiquary or amuse the curious traveller. What Providence had spared up to the Latin invasion was sacrificed to that event; and in the conflagrations that accompanied it the measure of four of the largest French cities of the day was reduced to ashes. The number of churches and palaces consumed, of families ruined, and the amount of merchandise destroyed by this invasion, would be a difficult task to calculate. To the same ruthless followers of Baldwin and Dandolo the desolation of the Hippodrome is due, and of the numerous statues and works of art that adorned it not one survives, save in history. Of the buildings mentioned in the "Notitia," before alluded to, as existing in the reign of Arcadius, about a century after the foundation of the city by Constantine, not one exists; and we are fain to console ourselves for the departed glories of the first period of Constantinopolitan art by the scanty inheritance of the two obelisks in the Atmeidan, that of red granite being attributable, as the inscription testifies, to Theodosius; the brazen column of the three twisted, but now headless serpents, which, according to legend, bore the golden tripod of Delphi; the Burnt Column of porphyry in the fowl-market, near the Mosque of Omar, once crowned with the statue of Constantine, bearing the attributes of Christ and Apollo; the Historical Column of Arcadius, in the female-slave market, of which nothing but the pedestal carved with his exploits, and part of the base, now remain; the Column of Theodosius within the Seraglio Garden; the "Seven Towers," immortalized by Byron, and renowned for its "Golden Gate;" the reservoir called the "Cistern of Constantine," or the "Palace of the Thousand and One Pillars," and another vast reservoir, constructed by the Greek emperors at a later date, supported on 336 marble pillars, with an arched roof over, and known by the title of the "Subterranean Palace."

Apart from the 4,388 houses, distinguishable for size or beauty, which the "Notitia" mentions as existing at Constantinople in the time of Arcadius, the mass of plebeian habitations were poor and small, and the streets so narrow and crowded that a view of the sky was difficult to be obtained. As the same authority only assigns to Rome 1,780 large houses, *domus*, the word must in the latter case have had a more dignified signification, especially as *insulæ* are not mentioned at Constantinople.

The second period in the history of the city begins with the reign of Justinian, generally honoured with the title of its second founder, whose first task was to repair the damage caused by the destructive fires that attended the Blue and Green factions of the Circus, and the memorable sedition of the *Nika*. The reign of Justinian constitutes the most brilliant epoch of Byzantine architecture, which thus early attained a development so independent of Gothic and Romanesque, that what was afterwards affected in the style, was but the working out of those essential forms, in favour of which the Turks abandoned the light and airy style which had characterized them in Asia Minor, and at once adopted the solid masterpiece of Justinian as their model. The Church of the Divine Wisdom, founded by Constantine, enlarged by Constantius, burnt down in the reign of Arcadius, rebuilt by the younger Theodosius, and burnt down again in the reign of Justinian, in the disturbances of the Hippodrome, was, for the third and last time, reconstructed by that monarch, twenty years after, in a style of far greater splendour than before, and upon a greatly increased scale.

Of the plan adopted by Anthemius and Isidorus for giving the cupola an air of the greatest possible lightness by so disposing the piers of the transept arches as to conceal their apparent support and diminish the real security of the fabric, we need not here recapitulate the well-known principles. The result soon demonstrated their error, as in 558 an earthquake destroyed the eastern half of the dome, overthrowing the holy table and tabernacle, and destroying the raised terrace, and necessitating its entire reconstruction, which was accordingly performed, with important variations from the original one, by Isidorus the younger. Among other additions, the outer porch, or exo-narthex, may possibly have been included at this time, as it did not form part of the original design. However, in the thirty-sixth year of his reign, Justinian celebrated the second dedication of a temple, which remains, after the lapse of thirteen centuries, allowing for minor additions during succeeding reigns, and a partial reconstruction of the dome in 987, an enduring monument of his fame.

The walls were of brick, the vaults of brick and stone, and external effect seems to have been sacrificed entirely to the necessities of construction, in the production of a building that should present an internal marvel of form and decoration. Ponderous counterforts and other mechanical contrivances; lean-to roofs and semi-domes clustering round the square central mass of the building, roofed by a flat segmental dome which almost disappears in perspective from a near point of sight; plain semicircular-headed windows without dressings, and an utter absence of all forms of Classical architecture or ornament of any kind, constitute the leading features of the exterior of this plain but impressive edifice, which at first sight conveys the notion of meaningless confusion until a knowledge of its plan and section clears up its mysterious complexity. Of its internal beauty there can scarcely be an adverse opinion; albeit, the flatness of the vault, which must have been planned to give the impression of a ceiling rather than a dome, is anything but an advantage; and in the previous dome, said to have been still flatter, the effect must have been still more unsatisfactory. Apart from this, however, its remarkable ovoidal plan presents combinations of great beauty from every point of view; and when surveyed from the centre of the Gynaiconitis, just over the great central door, the effect of space conveyed by the disposition of dome and semi-domes, and the radiating absidal cupolas, gradually diminishing in height till they join the columns of the galleries, present altogether a spectacle of grandeur, which, resplendent as the building was, and is, with coloured marbles, gilding, and mosaics, might well excuse the pious boast of its founder. In mystic and poetic language does Paulus Silentiarius, in his Ἔκφρασις τοῦ ναοῦ της Ἁγίας Σοφίας, describe these precious marbles, jaspers and porphyries, which encrust with a gorgeous lining the meaner materials of the walls and pavement. Porphyry columns from Baalbec, green marble ones from Ephesus, and others from Troas, Cyzicus, Athens, and the Cyclades, and stone from the quarries of Asia Minor, Greece, Egypt, Africa, and Gaul, contribute to the general effect of the church; and the temples of Isis and Osiris, of the Sun at Heliopolis and Delos, the Moon at Ephesus, Pallas at Athens, and Cybele at Cyzicus, have all assisted in the great Christian triumph of Justinian.

The method adopted by his architects of raising this dome upon the four piers of as many vast arches forming the sides of a square, and then bracketing out the angles till a circle had been obtained as a springing for it, was probably in use upon a small scale previous to so bold an application of it. It is not improbable, too, that their original intention may have been to construct the building upon the plan of a complete Greek cross, by forming transepts to the north and south sides equal to the east and west apses, and that doubts of the stability of so large a fabric may have occasioned the idea of closing up the latter arches with masonry, and adding buttresses as a substitute for the resistance of another pair of semidomes. But this is but surmise, and at all events the plan, as carried out, presents features well worth attentive consideration at the present day. "It is certain," remarks Mr. Fergusson, "that no domical building of modern times can at all approach Sta. Sophia's, either for appropriateness or beauty. If we regard it with a view to the purposes of Protestant worship, it affords an infinitely better model for imitation than anything our own Mediæval architects ever produced." Fossati, the architect entrusted with the late repairs and decorations of the mosque, considers that the exterior, now plastered and painted in stripes to imitate courses of brick and masonry, was formerly covered with thin slabs of marble like the interior; but this, though not improbable, cannot now be ascertained, all traces of such having disappeared. In 1453, Mahomet II. having converted it into a mosque, obliterated its Christian emblems in mosaic by covering them with paint and plaster. These mosaics, scattered over the vaults, domes, arches, and pendentives, and comprising single figures of doctors, prophets, and cherubim of various dates, but none, probably, so far back as Justinian, were uncovered, cleaned, and restored by Fossati, but are now again concealed from the eyes of the faithful by silver stars and other devices. The group over the great door of the Narthex, containing the prostration of Constantine Pogonatus before Christ, is now covered with a removable coat of paint. What mosaic ornaments are left exposed consist of minutely worked diapers of small tesseræ. The only other work of importance since the addition of the heavy external counterforts by Mahomet II. and the minarets by Selim II. and Amurath III. is the late thorough restoration under the Sultan Abdul Medjid, to which the world of art is indebted for the beautiful work of Salzenberg, and in which the greatest constructive improvement to be noted is the disengagement of the cupola from the four buttresses, and the substitution for their support of a double girdle of iron round its base.

With Sta. Sophia, as we before observed, internal Byzantine architecture reached its climax; but the style externally had yet to be developed. Thus did the revolving cycles of time terminate the struggle between the rival forms of the circle and the rectangle, by a happy combination of both principles.

The numerous churches, in greater or less preservation, scattered over the countries of the East that were influenced by Greek Christianity, and which were built upon the same principles, and exhibit endless modifications of the peculiar features of those which adorned the capital, form a study of great interest, as proving how far the Byzantine element had extended at that period, and offering an abundance of examples for the study of its peculiarities. The influence which, directly or indirectly, the Byzantine style exerted, at a later day, upon the western architecture of Italy, Germany, France, and Britain, and the northern architecture of Russia, and the consideration of which we must defer to our concluding remarks upon this subject, is still more interesting and important. No church upon a scale at all approaching to that of Sta. Sophia ever afterwards appeared in the Byzantine empire, and few of even a secondary size (which is the more remarkable, considering that for several centuries it was the richest in the world, and the one most occupied with ecclesiastical matters and church ceremonies), and Charlemagne contrasts the magnificent endowments of the Frank churches with the meanness of the Greek. Of the numerous churches built by Justinian in Constantinople, that of the Holy Apostles, now replaced by the Mosque of Mahomet II. wherein Justinian and the rulers of the empire reposed in coffins of porphyry, granite, and serpentine, was the second in importance. The few other Byzantine churches now converted into mosques, but retaining their old features, besides the Romanesque Agios Joannes (said to be the only example of the Roman basilican type remaining in the East), and the Agios Sergios, are comprised in the Aya Theotokos, the Aya Irene (now used as an armory), the Agios Pantokrator, the mosques of Fatiche Djami, Gunl Djami, and the Imrachio Djami, formerly the church of St. John Stadius.

Amongst the few Christian churches at Constantinople which claim a Byzantine origin, that of Moné tes Koras illustrates the method, immediately succeeding the completion of Sta. Sophia, of making the windows of the cupola an important feature in its composition, and which finally resulted in the fenestrated cylinders of the great domes of the Renaissance.

In the endeavour of Pierre Gilles (better known to scholars under the name of Petrus Gyllius), in the middle of the sixteenth century, to trace the ancient city amid the confusion of the modern one, we know not which feeling prevails, admiration of his zeal or pity for his sufferings.

Upon first reading the "Notitia," he was in hopes with comfort to have traced out the ancient city in the intricacies of the modern one; but he soon found that the destruction made by the barbarous Mahomedans, whose ignorance and superstitions were only exceeded by their love of mischief, and the terrible fires that had occurred since the Turkish occupation, had rendered the task of investigation one of almost insuperable difficulty. With the Greeks, too, he fared no better, scarcely meeting a man amongst them who either knew, or cared to know, where the antiquities of their capital were to be found.

"The difficulties I laboured under," says he, in the words of his translator, Ball, "in the search of antiquity here were very great. I was a stranger in the country, had very little assistance from any inscriptions; none from coins—none from the people of the place. They, as having a natural aversion to anything that is valuable in antiquity, did rather prevent me in my inquiries, so that I scarce dared to take the dimensions of anything, being menaced and cursed if I did by the Greeks themselves. Had I not seen, the time I lived at Constantinople, so many ruinated churches and palaces, and their foundations, since filled with Mahomedan buildings, so that I could scarcely discover their former situation, I had not so easily conjectured what destruction the Turks had made since they took the city. And though they are always contriving to beautify it with public buildings, yet at present it looks more obscurely in the day than it did formerly in the night; when, as Marcellinus tells us, the brightness of their lights, resembling a meridian sunshine, reflected a lustre from their houses. The clearness of the day now only serves to show the meanness and poverty of their buildings; so that, were Constantine himself alive, who rebuilt and beautified it, or others who enlarged it, they could not discover the situations of their ancient structures." One more lament does Gyllius make, even more touching than the preceding, and as it is a classical one, we will leave it in the language of its expression:—"Ad has incommoditates id accedit, quòd ex antiquis scriptoribus Græcis non adjuvari potes ad Constantinopolis cognitionem: non enim Dionysius Halycarnassus, non Livius, non Strabo, non Vitruvius, non Varro, non alii infiniti, ad cognoscendam novam Romam, sicut antiquam, mihi auxiliati sunt; non Blondus, non Fulgosius, non alii plerique mihi digitos ad fontes intenderunt, non ignotus scriptor patriæ Constantinopolitanæ quicquam me docere potuit: . . . adeò omnia immutata sunt, ut non modò quæ supra memoriam viventium antiqua dicere possumus, sed etiam quæ sunt supra singulos cursus ætatis, antiqua dici possunt."

In spite, however, of all these terrible obstacles Gyllius *did* discover the situation of the fourteen regions; but he warns future antiquaries that as the inhabitants are daily demolishing, effacing, and utterly destroying the small remnants of antiquity that exist, any future explorer will not be able to make further discoveries amongst their monuments. By such obliteration of the scanty landmarks of the old city, the short work of Gyllius becomes of paramount importance in Constantinopolitan topography.

During the reign of Justinian,—statesman, lawyer, and theologian, poet and philosopher, musician and architect,—except the laborious compilations of the Code, the Pandects, the Institutes, and the Novella, but few literary works of note appeared.

It was not alone the edict of silence upon the schools of Athens which crushed the spirit of philosophy and discouraged the votaries of science, but it was the rage of polemical controversy which, from the highest to the lowest of a nation irritable and litigious, but keen and penetrating, diverted the learned from the cause of literature and art, and turned their energies to the elucidating and furthering of one or another of those subtle points of difference which had split each leading heresy into minute subdivisons.

The Arian heresy, in the fourth century, was the first great cause which kindled the fire of controversy, never afterwards to be extinguished, and the followers of Nestorius and Eutyches were divided upon these two points of doctrine alone into a series of ramifications that could not readily be numbered. The Greek language was the medium of discussion in all those various questions, and had its inexhaustible resources, elegant phrases, and silvery tones been employed in enlightened and liberal teaching, upon a broad basis, rather than in the narrow and sectarian spirit of mere proselytism, how great might have been the result in the spread of taste and erudition. But the school of philosophy had now supplanted the academic retreat, and there must we look for the state of literature of the day. Exulting in the copiousness and fine precision of its language, Greek Christianity was characteristically speculative and investigatory, and no sooner was one curious question exhausted than another arose to supply its place. Until the institution of the metropolitan, and afterwards of the patriarchal dignity, the Greek churches were a federation of republics, individually independent, but collectively united by sympathy, creed, rites, and habits; and though the apostolic foundations might be held in higher repute or respect than others, yet there was no supremacy. Paganism extinct, Eastern Christianity lost aggressive power, and achieved no further conquests of importance. Sassanian Magianism and triumphant Mahomedanism still further reduced its sphere of action, whilst contested patriarchates and metropolitan intrigues contributed to sink the ecclesiastical fabric into the shadow of its former self. One characteristic remained long after the great Greek writers had passed away—the love of theological disquisition. Finally, the Greek language gradually, but slowly, degenerated, until, after the fall of Constantinople, it broke up into barbarous dialects, but evoked no new language of beauty from the fusion.*

FRESCO-DECORATION: THE ROYAL EXCHANGE.

Of the various modes of mural painting in which expression can be given to artistic skill or feeling, the most important is undoubtedly that termed "fresco." In this method were executed the greatest works in painting that human genius ever contemplated. During what is called the *cinque-cento* period, in the hands of Leonardo da Vinci, Michelangelo, and Raffaelle, fresco painting became the chief glory of that golden age of art. The present age has already witnessed, in some degree, the revival of the practice of adorning architectural structures with noble and permanent works of art, which had gradually declined in Italy since the end of the sixteenth century. The movement commenced with the decoration of the Chevalier Bartholdy's house at Rome, by Cornelius and other German artists. Many of these artists were afterwards invited to Munich by the ex-king Ludwig, of Bavaria, to embellish with frescoes the magnificent buildings then constructing under his auspices. To Cornelius and his pupils are also due many of the best modern frescoes in Berlin. In Paris, mural decoration has of late years been employed for the embellishment of the exterior as well as the interior walls of churches and public bulidings. The Hemicycle of Paul Delaroche, which is perhaps the best known wall-painting in Paris, though possessing all the breadth and freedom of fresco, is executed in oil; but mural decorations in fresco, and encaustic, by some of the most distinguished modern French artists, are to be admired in the churches of St. Eustache, St. Vincent de Paul, Notre Dame de Lorette, St. Germain l'Auxerrois, and the Madeleine.

In England, before the exhibitions of cartoons in Westminster Hall during the year 1843, and again in 1845, and the evidence taken, had confirmed the Commissioners of Fine Arts in their approval of fresco for the decoration of the Houses of Parliament, some attempts had been made to form an English school of fresco painting; and royalty had set the example of exercising the invention and skill of our native artists, by entrusting to them the adornment of the little pavilion in the gardens of Buckingham Palace, and some other works, as an experiment. The Houses of Parliament then presented a great opportunity for the revival of fresco-painting in this country; and our artists proved that they felt the importance of the occasion. The paintings now existing in the House of Lords, although not all successful, are a sufficient proof of the value of fresco-painting for the highest purposes of the artist. Nevertheless, its broad sphere of applicability and its general advantages of permanency, as well as its beauty, have not yet been sufficiently recognized. It is an art that concerns not alone the artist who should employ it in his noblest efforts; but also the chemist, who should furnish the means for rendering them enduring, and the architect whose structures it should embellish—the builder to whose labours it should add grace and beauty. We have here to speak of fresco as a method or process of mural decoration, and as such we do not think it has yet been duly appreciated, at least in this country. Even in the highest branches of art applied to architectural adornment, other processes appear to have been generally adopted in preference to this—the most admirable because the most unchangeable. For *buon fresco*—real fresco—methods inferior in every respect save that of adaptability to mediocrity of talent have been substituted. *Fresco secco*, always heavy and opaque, *tempera* or distemper, which may conceal the want of skill in the artist, but which, in the words of Vasari, "brings on patchings, stains, retouchings, colours one upon another, and brush-marks, after the colour is set, which is the vilest thing in the world, being the evidence of shallow power," and also oil colour upon a non-absorbent surface, are employed instead of the legitimate but more difficult process; and the painting is simply renewed when its dim smoky surface attests the worthlessness of the expedient. This system of renewal is unworthy of England, where, we hesitate not to say, the love of what is beautiful is general among other sterling though more material qualities. In England, the idiosyncracy of the artist, his contempt for what is stereotyped or measured by the two-foot rule, his distaste for "order" and punctuality, his erratic fire and meditative indolence, producing that which well-regulated but common-place industry alone could never achieve, are not understood, and are discouraged from youth upwards. So much the better, perhaps; but it must be remembered that where these qualities are rooted out—not simply sobered or guided, we lose the artist, and we gain a very ordinary man of business. The Anglo-Saxon sometimes mistakes genius with its abstraction, its shyness, and its reserve, for simple stupidity; but, nevertheless, under his rude energy, hardened and steeled for the world's material struggle, there is enough poetry to comprehend and respect the beautiful,—enough love for it to wish to render it immortal.

It is to this feeling for art among the old masters that we owe the process of fresco-painting, the result of their laborious and enthusiastic research into all the means and materials of the artist. As it now is, the modern chemist can but give his testimony to its excellence: he can scarcely hope to improve or surpass it. Him it regards in our days to guide the artist in the choice of substances to work with and to work upon, since the latter has no longer, as of old, a laboratory beneath his own roof, nor in most cases a practical knowledge of the chemical properties of the compounds he employs. The *intonaco* of the fresco-painter,—a mixture of finely-sifted sand and lime,—is in its fresh state admirably adapted for the absorption of the pigments used by the artist; and these, being in admixture with lime, become an integral portion of the resulting compound, one of the most durable and changeless with which the chemist is acquainted, namely, the silicate of lime. The peculiar characteristics of fresco, its brilliancy and permanency, are due to the fact of its not consisting merely in a *surface* of perishable material. The layer of brightly-coloured silicate of lime is subject to none of the changes produced by light, air, moisture, and alternations of heat and cold upon compounds of oil or gelatine. And its hard polished surface affords but little hold for the impurities existing in the atmosphere; and, moreover, can be readily cleaned.

We have been led to these remarks by observing the superiority of the new decorations of the Royal Exchange (already alluded to in these pages) over those which are at length being "renewed,"—albeit both are the works of the same artist. This superiority may now be appreciated by merely stepping across the quadrangle from one ambulatory to the other, and contrasting the old decorations with the new. Like all oil paintings in similar situations, the former appear cramped and gloomy; while the latter are bright, translucent, and cheerful, giving to the eye the effects of light, breadth, and space. It has sometimes been maintained that fresco, from its very brilliancy and lightness, is not adapted to the heavy atmosphere of our climate, more especially

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* To be continued.

in an exposed situation. But this opinion appears now to be practically disproved, even in the metropolis:—

"Ubi cœlum condidit umbrâ
Jupiter, et rebus nox abstulit atra colorem."

It is related of a Frenchman, who chanced to visit London during the period of a three days' fog, that he returned in all haste to his own country with the sincere conviction that the climate of England was wholly unadapted to any description of painting that could not conveniently be viewed by candle-light. Those who would forbid the introduction of fresco-painting into England, on the score of climate, appear to labour under the same misapprehension. Even in London the sky is by no means always overcast and gloomy; and there appears to be no reason that dulness and opaqueness of decorative painting should be adopted to harmonize with what may even be the general condition of the atmosphere. When this, thanks to the "Smoke Act" and to the natural conditions under which the sun becomes visible, happens to be clear and cheerful, it is a double pleasure, and one fully to be appreciated, to meet with clearness and cheerfulness in architectural decoration,—to find, even for an instant, the sky of Italy and the glories of her ancient art combined in the very heart of our great metropolis. And it would seem that fresco, which it has been sought to banish, is indeed the only painting that can withstand the action of our atmosphere. The proof was difficult; for prejudice, not reason, had to be encountered. If the lovers of "the manly and effective art that shed so much lustre upon the masters of the Cinque-cento period" are now to have their hopes and wishes gratified on an extended scale in one of the most important structures of London, it is to a stratagem on the part of the artist that it is due. This gentleman, Mr. Sang, whose decorative works are well known, introduced a small specimen of real fresco into the hasty and temporary decorations executed by him some fifteen years ago in the Royal Exchange. It was this specimen which furnished the proof of the adaptability of fresco to a much-abused London atmosphere, and which decided the Gresham Committee to choose at length this mode of permanent ornamentation for the building in question. And from the cunning device of an artist to verify his conviction, it may result that our own country may henceforth be included among those nations who have welcomed and retained fresco as a familiar and cultivated guest.

PROGRESS OF THE NEW WESTMINSTER BRIDGE.

The last rib in the southern portion to be first opened for traffic, of the new Westminster-bridge, was completed last week, at the arch first on the Middlesex side; and the longitudinal and transverse girders have been fixed in this portion of the intended width of the structure. The buckled plates upon the girders are laid throughout the greater part of the distance; and upon them, the filling-in work of wood blocks and asphalte in the hollows formed by the buckling, is also very far advanced. The work yet to be done includes the paving of the roadway and footway, the southern parapet, and the masonry of the semi-octagonal piers, which will form the facing above the cut-waters. The parapets of the approaches are being proceeded with. The character of these, in the weatherings and mouldings, is made to resemble that of the parapets to the terrace of the Houses of Parliament. The sunk garden, or area, north of the Houses, is in course of completion, as well as the stairs from the water, which are close to the bridge. Boarding is being placed along the north side, as the temporary parapet there of the portion of the bridge to be opened. There is every appearance that the bridge will be completed before the requisite provision is made at the street approaches. There are no signs of the removal of the houses on the south side of Bridge-street, which are still occupied. A bill certainly was brought into Parliament this year, by the late Government, to give power to obtain possession of the houses; and 40,000*l.* were voted towards the formation of approaches, at the close of the last session; but there seems to have been some hitch about the matter, resulting from changes in the Government or Parliamentary interference. Should the half of the bridge be opened in November for carriage-traffic, before the houses are removed, there will be many accidents. The work completed towards the second or northern portion is considerable in quantity, and, besides, will much facilitate the removal of the old bridge. It includes the whole substructure in the case of three out of the six piers of the new bridge, which were not interfered with by the position of those of the old bridge. One of these piers passes under one of the ruinous arches; so that there must have been some ingenuity required in getting the piles driven or fixed, with centreing in the way of the operations. Seven of the fifteen ribs in each arch of the whole bridge are now fixed, forming a continuous piece of construction, from shore to shore, of masses of cast and wrought-and-riveted iron bolted together; the superstructure of each pier being in fact formed of iron castings, and only faced above the cut-waters, in the manner above mentioned, with granite. To meet the objection made before the committee of 1856, regarding expansion and contraction, which Mr. Stephenson seemed to think might amount to such a dimension as 4 inches in the length of the bridge, it was then mentioned that vulcanized india-rubber was to be provided between the joints of the longitudinal girders, and that the arches needed slight provision, since they would rise and fall as in other iron bridges—the change of temperature in this case extending to half an inch each way; and that it was the practice with some engineers to fix the iron in such manner that the force from expansion would be "expended upon the iron itself, exerting a compressive force of one ton per square inch for every 15 degrees of increase of temperature." It was stated at a later date, that "supposing a difference of 60 degrees of temperature, the rise of the outer rib of the centre arch would not be more than half an inch above the mean line, and the fall half an inch below it, and this rise and fall would be very gradual," and it might be further reduced by coating with a non-conductor. The longitudinal girders were expected to be subject to an increase in length, equal to one-sixth of an inch at each joint. The vulcanized india-rubber will be used in one set of joints over piers. As regards the arches, Mr. Stephenson suggested that "part of the angle iron of the upper flange of the wrought-iron ribs" should be cut, and a wedge inserted. After the evidence touching Southwark-bridge, and the precarious state of Sunderland-bridge, some provision was necessary.

THE LATE MR. FREDERICK CRACE.

We hear with regret of the death of Mr. Crace, the elder, whose talents as a decorator have long been acknowledged. He died at his residence in Hammersmith, on the 18th September, in the 81st year of his age. In early life he was employed to carry out the most important decorations that were at that time executed, more especially for the Prince Regent at Carlton House, and the Pavilion at Brighton; afterwards, he was engaged in the principal decorative work at Windsor Castle and the Fishing Temple at Virginia Water. Mr. Crace has always taken great interest in the history and topography of London, but for the last thirty years of his life he has devoted himself, with untiring energy and industry, in perfecting a very valuable and extensive collection of maps, plans, and views of every part of the metropolis from a very early period to the present time. He has left this collection to his son, Mr. J. G. Crace, whose taste and acquirements are well known.

THE MONUMENT IN EAST SHEFFORD CHURCH.

The observations made by Mr. Planché in this church on the occasion of the visit of the British Archæological Association, seem to have been misunderstood by the reporters. He demonstrated clearly by the arms on the lady's seal in the British Museum, that she could *not* be a princess of Portugal, though she might have been a collateral descendant from an illegitimate branch of the royal house. He pointed out that Sir H. Nicolas and Sir Frederick Madden had, *many years ago*, shown that Beatrice, the daughter of John I. king of Portugal, who married first the Earl of Arundel, and afterwards the Earl of Huntingdon, was a distinct person from Beatrice Lady Talbot, who lies at East Shefford, and commented on the tenacity of error, as writers still continued to confound them; and went on to say, that he believed the latter would prove to be one of that branch of the great *Sousa* family, who were Lords of *Pinto*, thereby reconciling two contrary opinions expressed by former writers. The speaker also gave the precise date of the death of the lady,—"Christmas-day, 1447." In the church, Mr. Planché was fortunate enough to find a very fine visored bassinet of the time of Henry V. which he had no doubt belonged to Thomas Fettiplace, the second husband of Lady Talbot, whose effigy lies beside hers.

NOTABLES BURIED IN THE OLD CHURCH OF ST. MARTIN-IN-THE-FIELDS.

Amongst the painters and sculptors who were buried in the old church of St. Martin-in-the-Fields may be mentioned Nicholas Stone, the sculptor. There was a marble monument at the west end of this church to this artist:—

"In his life-time esteemed for his knowledge in sculpture and architecture, which his works in many parts do testify; and though made for others will prove a monument of his fame. He departed this life on the 24th August, 1647, aged 61, and lyeth buried near the pulpit of this church."

This monument was adorned with his bust, finely carved in profile, with several tools used in sculpture, a square, compasses, &c. His son, also a sculptor, was buried in the same grave, September 17th, and his wife the following November the 19th, 1647.

Nicholas Stone was born at Wandbury, near Exeter, in 1586, and, coming to London, lived for some time with Isaac James. He then went to Holland, and married the daughter of Peter de Keyser, for whom he worked at his profession as carver in stone. He returned to England, and was engaged in the building of the Banqueting-house, Whitehall. No doubt the sculpture, scrolls, and other ornaments in stone were of his work. In the reign of Charles I. he obtained the patent appointment of Master Mason and Architect of the King's Works at Windsor Castle, &c., for which, saith the document, "we do give him the wages and fee of twelve pence by the day." Nicholas Stone had three sons,—Henry, Nicholas, and John.

Henry, the eldest son, erected the monument for his father, mother, and brother, and carried on, in conjunction with John, the business of statuary after his father's death; though Henry addicted himself chiefly to painting, and was an excellent copyist of Vandyck and the Italian masters. Henry wrote a book, "The Third Part of the Art of Painting." This artist continued to reside on the premises which had been his father's, viz a house, garden, and work-yard situate in Long acre, which was rented from the crown at 10*l.* per annum. Henry Stone died in 1653, and was buried near his father, where a monument was erected, and this epitaph written for him by his brother John:—

"To the Memory of Henry Stone, of Long Acre, Painter and Statuary, who, having passed the greater part of thirty-seven years in Holland, France, and Italy, atchieved a fair renown for his excellence in arts and languages, and departed this life on the 24th of August, A.D. 1653, and lyeth buried near the pulpit of this church."

[Here follow some complimentary verses]

"John Stone, to perfect his fraternal affection, erected this monument."

The last member of this family of artists was laid in the same church; and, to perpetuate their memory, their near kinsman added to the monumental inscription in the quaint style of the time—

"June 1699—
Four rare stones are gone,
The father and three sons,
In memory of whom their near kinsman, Charles Stoakey, repaired this monument."

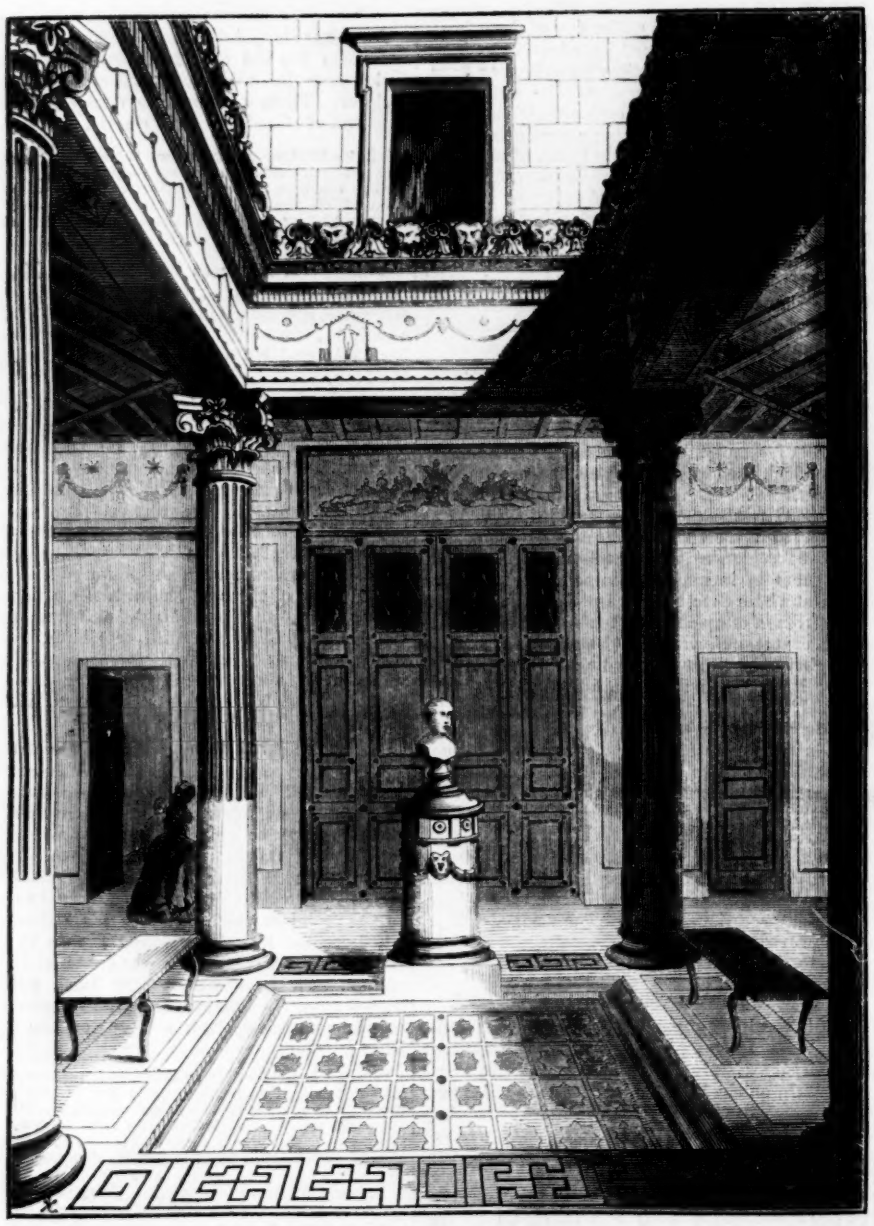
In this little church was interred Paul Vansomer, a portrait painter, some of whose works were scarcely inferior to Vandyck's. He practised in England about fourteen years, during which period he painted King James I. and his queen, and many of the nobility, and other distinguished persons.

Nicholas Laniere, a man of considerable talent was also interred in the old church. He was a painter, musician, engraver, and a skilful connoisseur. He was much employed in purchasing pictures for the gallery of King Charles I.

Another ancient artist, Nicholas Lyzard, who had been in the service of Henry VIII. and Edward VI. and who was sergeant painter to Queen Elizabeth was buried here.

Also Nicholas Hilliard, limner, jeweller, and goldsmith to Queen Elizabeth, and afterwards to King James I. He was, perhaps, the best miniature painter who had appeared, though greatly inferior to his pupil, Isaac Oliver, and his successors Samuel Cooper and others.

Hilliard was one of the sons of the high sheriff of Devonshire, and apprenticed to a goldsmith and jeweller. When young he painted the portrait of Mary Queen of Scots. Queen Elizabeth frequently sat to him. Mr. Walpole asks, "Was it not when sitting to this artist she desired to have her countenance represented without dark shadows, observing, 'there are no shadows in the human face?'"



RESIDENCE OF THE PRINCE NAPOLEON, PARIS.—*View in the Atrium.*

THE PRIVATE HOUSE OF PRINCE NAPOLEON, PARIS.

The Avenue Montaigne, Paris, has recently witnessed the erection of an "ancient" house, as complete as that of Diomedes or of Pansa; the contemplation of which takes one back to Pompeii before the eruption of the volcano.

A light railing, interrupted by piers, forms the line of separation between the modern way and the ancient house. The façade presents to the eye unobtrusive and simple lines, enlivened by the richness of polychromatic architecture.

The joints of the ashlar are coloured red. A tetrastyle porch occupies the centre, and forms the exterior vestibule, composed of two pillars at the angles, and two Ionic columns, tinted yellow to the middle of the shaft, and having their frieze, caps, and bases also polychromatized.

The square niches to the right and left of the peristyle contain each a statue in bronze, the one of Minerva, the other of Achilles. Colour is used to bring out the reliefs, and enlarge the effect of the construction.

On arriving under the vestibule, two large black dogs in mosaic with bristling hair justify the Latin inscription, *Cave Canem*.

In this vestibule the blue coffers of the ceiling are adorned with large white stars, and the intercolumniations enlivened by baskets of flowers, alternating with lamps of antique form.

The atrium was anciently, as every one knows, the most important and striking feature. Into that kind of court of which the Spanish and Moorish houses have preserved the disposition, the doors of the apartments opened like monks' cells round a cloister. The atrium of the very ancient house of Prince Napoleon is also the most important and largest portion of the edifice. In the centre of the atrium we find the impluvium; by means of which the hall is lighted. Four Corinthian columns, fluted down to the middle of the shaft, and coloured thence to the base with a purple tint, support a richly decorated entablature, crowned with lions' heads with red tongues; true sinecurists, as M. Theophile Gautier says, having the function of vomiting water, which cannot fall upon the terrace, protected as it is by an immense skylight, supported by a first-floor recessed, which one cannot see from below.

A basin of some inches in depth, adorned with various marbles, corresponds exactly with the opening above. Upon the margin of the basin, between the two end columns, rises a kind of altar, with painted and gilt garlands, supporting a bust of Napoleon in white marble. Three benches of white marble with bronzed feet occupy the intercolumniations, and permit one to chat to the pattering of running water.

Round the atrium are ranged ancestral figures and marble busts, lightly gilt, and placed upon marble pedestals. We name them in the order in which they are found on entering:—Catherine Lætitia Buonaparte, Josephine Marie Louise, Elise, Pauline, Caroline, Joseph, Lucien, Louis, Ch. Buonaparte, *père*; Jerome.

Upon the walls of the quadrangle are painted allegorical subjects, surrounded by those cabinets of fictitious architecture which decorate the walls of Pompeii and the baths of Titus, and of which Raffaelle has made such happy imitations in the Vatican. All these paintings, and also those which decorate the *Salle à Manger* and the Library, are due to the pencil of M. Sebastian Corun. The description, it will be seen, accords to some extent with the Pompeiian House in the Crystal Palace.

The Library has the walls occupied with books. At the ends two red cabinets, with drawers, inclose medals, engravings, and plans. Two vases of porphyry are placed upon black marble columns, one on each side of the door which leads to the atrium. In front of it is a large window, divided by two mullions, beneath which is the fire-place.

The *Salon*, situate at the end of the atrium, is painted red, with a black plinth. The Pompeiian ornamentation displays there its most charming caprices. Quite at the end of the house is the greenhouse, which serves likewise as a smoking room; and then come Turkish baths of great magnificence. This house is not simply a curiosity,—it is perfectly habitable. The architect, M. Normant, has, above all, tried to apply to the usages of modern life an antique house, and, if we are to believe our authority, he has perfectly succeeded.

DARKNESS IN THE PARKS.

In these days, when throughout the metropolis so much care is taken for the lighting of the public streets, it seems strange that the main roads across the parks should be left, for say five hours, in the winter evenings, in a state of complete darkness. It is really preposterous. Take, for instance, the thoroughfare between the Marble Arch and Knightsbridge, which is a road most convenient to thousands of wayfarers, but which, in winter, is rendered impassable to many, in consequence of the want of light. No one can pass across here and note how the blazing lights on all sides serve to dazzle the eyes, increase the gloom, and bewilder the wayfarer, without wondering at the policy which has for so long left this park as much neglected as regards gas-light, as Wormwood Scrubbs. The light would only be required during the hours the thoroughfare is open in the winter nights. The subject demands the immediate consideration of the Chief Commissioner. Light in this place is absolutely called for.

THE PNEUMATIC FIRE DETECTOR AND VENTILATOR GOVERNOR.

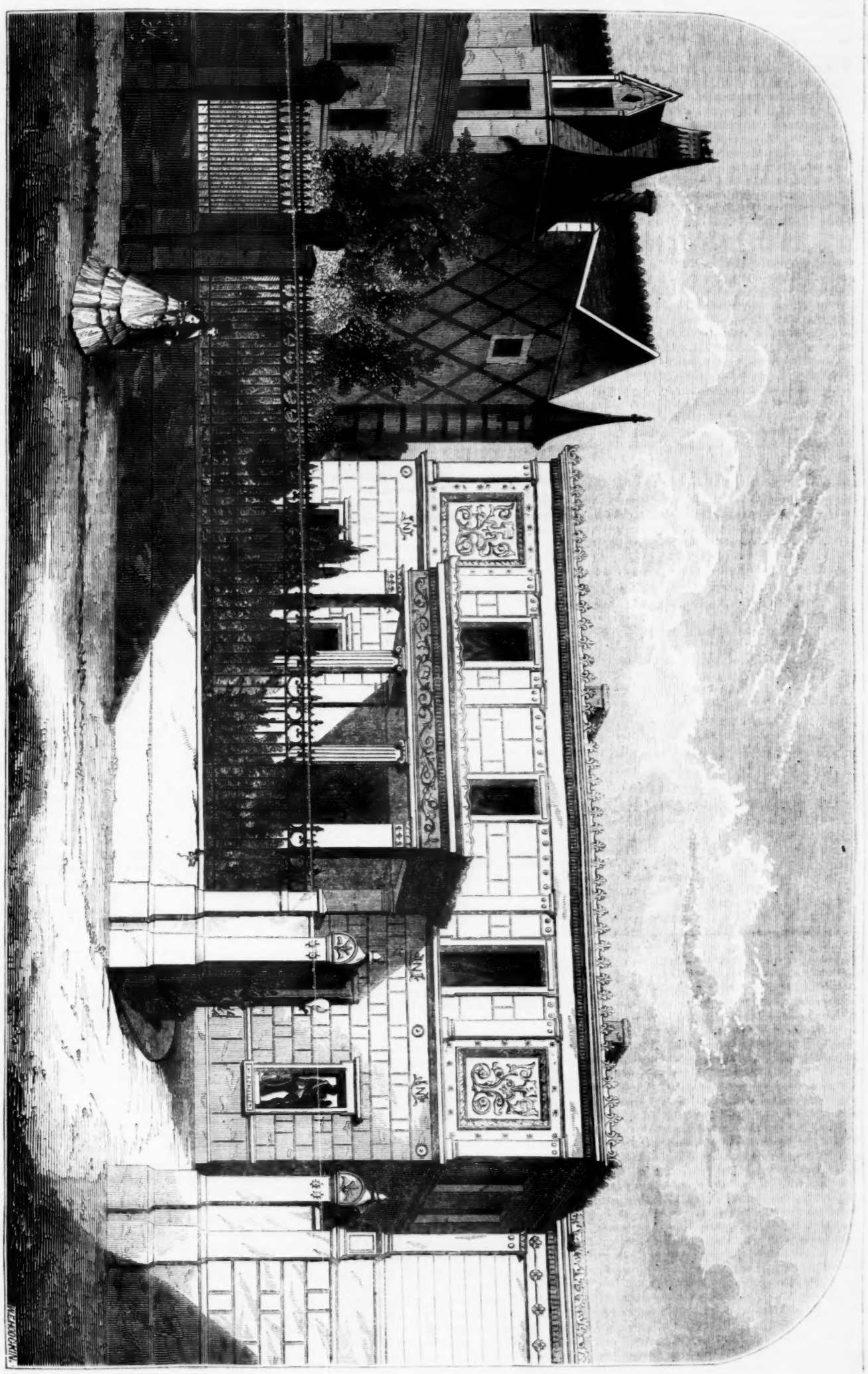
This little machine, patented by Messrs. Taylor and Grimshaw, ought, as it seems to us, to come into general use. It consists of a small cylinder of thin metal to contain atmospheric air. Within it is a flexible diaphragm made perfectly air-tight to the interior of the cylinder by suitable packings. The expansion or contraction of the atmosphere contained in the cylinder causes the centre of the diaphragm to rise or fall in a vertical line, and so to give motion to a piston rod transmitting motion through screw-gearing to a pointer which marks the temperature on a dial plate. By a simple arrangement, when the pointer reaches any arranged position, an alarm bell is rung or explosive matter discharged. If placed in a ship's hold, for example, and the temperature should be raised by spontaneous combustion, or otherwise, the excess of heat is shown on a dial on deck or elsewhere, and proper measures may be resorted to, or it will regulate any form of ventilator, and the dampers of boilers, or serve as a steam-gauge, and perform many other useful offices.

OUR ARMY OF BUILDERS.

The Registrar-general reminds the public, that when the census was taken in 1851, there were in London 13,919 bricklayers, 23,453 carpenters, 15,360 painters, and 4,378 plasterers. Putting the number of masons at 10,000, this shows that nine years ago there were more than 67,000 persons connected directly with the building trade of the metropolis. There are, further, brickmakers, quarrymen, smiths, glassmakers, and others who depend on this trade, who would make the number not less than 100,000! This tremendous army, constantly engaged in rearing and keeping in order the buildings of London, has since the above date been very largely increased; so that the number connected with the trade, including labourers, must be little short of 130,000. Supposing the population of this vast city to be, say 3,000,000, and the working men are taken at one-fifth (600,000), we see the great preponderance of this branch of industry.

A penny a week paid by each of these workmen would amount to 541*l.* 13s. 4d.: if a penny a day were set aside, the sum would be 3,791*l.* 13s. 4d. a week, and this in the year would come to 197,166*l.* 13s. 4d.

What wonders could be worked even in one line of business if the pence were collected and wisely applied!



PRIVATE RESIDENCE OF THE PRINCE NAPOLEON: AVENUE MONTAIGNE, PARIS.—M. Normant, Architect.

THE FRANKLIN RELICS.

It has been suggested that the interesting relics which are evidences of the fate of a famous navigator and his brave companions should be exhibited at the Crystal Palace: others say that the British Museum would be the most fitting place. But the best idea is, that these relics, for which men have for years been looking, should be placed in some central situation, and exhibited to the public at a fixed sum, and the proceeds given to the wives and children of those who have perished in the ice-bound regions.

Although Captain McClintock's yacht, *Fox*, has reached the Thames, the relics have not yet been seen, owing to the absence of Lady Franklin, who is in the south of France. It will be remembered that the present expedition was undertaken at the cost of this lady: the Government cannot therefore dispose of these matters until Lady Franklin is communicated with. At the Admiralty there are two documents, of very great interest: one contains the record of Sir John Franklin's death twelve years ago, and other particulars written on the margin of a printed request, in English, French, Dutch, and other languages, that those who found it should forward the same to the English Government. In these papers, which were found under a cairn, built by the Franklin expedition on the spot on which it was supposed a pillar had been raised by Ross, the desertion of the ships *Erebus* and *Terror*, and the route of the party are mentioned. These documents cannot be examined without feelings which are difficult to describe. The hands which penned the information are all stilled.

We have erected many monuments to record the noble deeds of Englishmen. Now that the fate of Franklin and the men who accompanied him is known, we trust that a worthy memorial will be raised, which will keep in memory, not merely those who perished, but the persistence and devotion of those who sought to aid them and ascertained that aid was useless.

THE SCULPTURED STONES IN SCOTLAND.

Amongst the papers read at the recent meeting of the British Association in Aberdeen was one by Mr. J. Stuart, secretary to the Society of Antiquaries of Scotland, "On the Sculptured Stones of Scotland." He said the occurrence of pillars in almost all parts of the world, to mark events of various kinds, is very remarkable. In Scotland we have instances of two classes of pillars—that is, of single pillars, and pillars collected in groups, of circular form; these latter having unfortunately, been connected with the Druids, without the slightest foundation on which to build such a theory. It was Stukely who first introduced this opinion, which has but tended to obscure the whole subject; and the sooner we get rid of it the better. Mr. Charles Dalrymple was kind enough to make some investigations in this county, and the following is his account of the results of one of his diggings at Crichie, about sixteen miles from this town. The circle had originally consisted of six stones, of which only two are now standing. We find in almost every instance the discovery of sepulchral deposits in connection with these pillars. These circles may have had other meanings, though this is the only one we can discover. The present paper, however, deals with sculptured pillars, and these consist of two distinct classes. First, there is the rude, unpolished, unhewn stone, covered with figures which we call symbols. One of these pillars is found at Logie, in this county. It contains various symbols, including "the spectacle ornament," and oghams, in a position which Irish scholars say is peculiar to this stone. Mr. Stuart went on to allude to the symbols of a more elaborate character, including the elephant, fish, &c., on others of these pillars, remarking, as to the distribution of the pillars, that by far the larger portion of the stones between the Dee and Spey are of the ruder class of stones covered with symbols. In the centre of the district there is a stone with an inscription upon it which has hitherto baffled the efforts of scholars to state its character, until lately, when Lord Aberdeen got it submitted to the late Dr. Mill, of Cambridge, who prepared a disquisition before his death, and which is now in course of being printed. In it, it will be found that Dr. Mill had satisfied himself that the inscription was a Phœnician one: at all events, there can be no doubt that the inscription is Eastern. This stone, as already stated, is in the centre of the district between the Don and the Spey.

There is one remarkable fact connected with these symbol stones,—viz., at Norries Law, in Fife, near a circle of these stones, there was found what is believed to have been a complete set of armour. The symbols upon the stone were found repeated upon a silver ornament among the relics alluded to. Now, if we could suppose that this symbol—the spectacle ornament—indicated the rank of the individual, or had reference to sacred dignity, it would be a great step gained in the elucidation of the sculptures. It has to be observed that the symbols are never found twice repeated in the same order. Mr. Stuart then noticed the stone crosses, of which there are some very remarkable examples on the west coast; a beautiful one at Oronsay, and another at Kildalton, in Islay. Sculptured crosses, which are of a more recent date than the symbols, occur less frequently on the east coast of Scotland, in the district between the Forth and Caithness; and what is to be remarked in regard to them is that, while in Aberdeenshire the symbol is common, the cross seems to be less prominent. When you go to Forfarshire there are some magnificent examples of the cross, and the symbol becomes less conspicuous, and its place seems to be occupied with subjects of quite a different description. The stones present many instances of priests in their robes, with books, and occasionally with remarkable ornaments. At times these have peaked beards and moustaches. Some of the stones had men shooting with the bow and arrow; bird-headed human figures; figures in armour on horseback, having the trapping and armour in detail; men devoured by animals; men seated as if in judgment; historical scenes relative to slaughter; processions, in one of which a man leads an ox, and is followed by other men in line; in another several men and oxen; which, in a third, appear about to be sacrificed, and here the men are tonsured, and carry candles. The centaur occurs, occasionally dragging branches of trees, and sometimes carrying battle-axes. A chariot and horseman are seen at Meigle. A single specimen of a boat appears on St. Orland's stone; and there are specimens of monkeys, apes, lions, leopards, deer, and beasts of the chase. The Temptation in Paradise occurs at Farnell. There are also inscriptions upon one at least of the sculptured crosses, which, however, appear to resemble the Irish character, although it has never been read to the satisfaction of scholars. In the earliest notice of these stones which we have, we find the ancient inhabitants of Scotland thus spoken of by Coece:—"They usit the ritis and maneris of Egyptians, fra quhome they tuk thair first beginning. For all thair social besines, they usit not to writ with common latteris usit amang othir pepil, but erar with sifars and figuris of beistis maid in maner of letteris, sic as thair epithatis and superscriptions abone thair sepulturis schawis, nocheless this crafty manir of writiug, be quhat stenth I cannot say, is perist; and yet they have certane letteris propir amang thaimself, quhilkis war sem time vulgar and commoun." Mr. Stuart observed that the sculptured crosses of Scotland were distinct from those in Ireland and Wales, &c. the sculptures in Scotland almost invariably representing hunting scenes, &c. while those in Ireland are drawn from the Bible—as the Temptation, the Expulsion from Eden, &c. The symbols of Scotland were mostly unknown elsewhere, nothing similar being found in Brittany, Ireland, or Northumberland, while the symbols of the Christian Church are not local, but general, and universally understood. And if the Scottish sculptures had been Christian, we should have found them diffused over a wider sphere. Then the Scots who came from Ireland in the sixth century did not use them in their own country, nor in Argyll, the country which they colonized, sothat we must suppose the symbols to be the work of the Pictish people, in whose country, with two exceptions, they occur—one in Galloway, the other discovered by his friend Mr. Robertson, in Princes-street Gardens, Edinburgh. These Picts are spoken of in the third century by Roman authors, when the term Caledonii is given up, and we find them historically in possession of the country till they were overcome by the Scots in the ninth century. There were two nations, the north and south, the former converted by Ninian, the latter by Columba, in the latter part of the sixth century. Much as we hear of their mutual warfare and conflicts with their neighbours from the Irish chroniclers, we yet gather from the Venerable Bede some facts which show considerable progress in arts. Biscop, Abbott of Yarrow, about 673, founded a monastery at Wearmouth. He had been at Rome, in company with Wilfrid, about twenty years before, and they both imbibed a taste for Roman architecture, which they afterwards strove to diffuse in their own country. Biscop brought home masons to make him a stone church, after the manner of the Romans, in place of the more perishable structure of wood. About the year 710, Nechtan, king of the Picts, sent messengers to Cœdfrid, the successor of Biscop, to ask for information as to the correct time of celebrating Easter, then a mooted point between the Anglo-Saxon and Scottish Churches. The stones occur, then, in the land of the Picts, whoever they were. They are probably the work of their hands; and it is not a violent conjecture to suppose that they mark the period of transition from Heathenism to Christianity. If we regard these sculptures as the earliest works of art, and the expression of the ideas of the early inhabitants of Scotland, they must be regarded with great interest. But increased research and more rigid classification may yet draw new and unexpected deductions from them. One great desideratum would be to have systematic diggings about these pillars, and to preserve the skulls and other remains which may be found in doing so. The time for theorizing from the mere shape and appearance of these monuments, such as those at Carnac in Brittany, and our own Stonehenge and Avebury, is quite gone by; and, wherever the pick-axe has been used, as it is now in the course of being done in Brittany, the result presents us with some, and the first reliable, data for any conclusion on on the subject. If this agent be judiciously applied to the various classes of our Scottish antiquities which yet remain to us, we may hope to obtain some sure footing for investigating the history of the early inhabitants of our country.

PUBLIC LIGHTING IN THE METROPOLIS.

The managers of the Metropolis Gas Inquiry have published some fresh tables founded on returns obtained from thirty-seven out of the thirty-nine parishes and districts comprised in the metropolis, including the City, and they draw the following startling conclusions:—

"The gross amount of overcharge for these thirty-seven parishes and districts is.....	£48,041
Adding a proportionate amount for the two parishes which have not returned the number of lamps,—we have.....	2,597
	£50,638

Or, in round numbers, an overcharge of more than 50,000*l.* a year made in the metropolis at this time in respect of public lighting alone."

TO PREVENT STRIKES.

Sir,—Having both individually and as editor of an influential periodical aided us in our efforts to improve the condition of the industrial classes, you are well aware of the good effected in co-operation with Dr. Birkbeck and Mr. Basil Montague in one direction, and in every way by Lords Brougham, Denman, and John Russell, and by the late Joseph Hume and Francis Place. Is it not lamentable to find all that was effected from the time when the old oppressive combination laws were repealed, rendered useless by the insane machinations of the lunatic Feargus O'Connor, or the flimsy pretensions of present leaders, who have placed themselves between the working men and their best interests, and ignorantly misrepresent the principles of political economy, of jurisprudence and common sense? The best time of the year has been lost in feverish idleness: the savings of years of industry are consumed; and a severe winter may bring to the deluded victims want and domestic squabbles.

This cannot be avoided; but is it not possible to devise a plan for preventing ruinous, sudden strikes for the future? Lord Brougham and Sir John Bowring would suggest a *Cour des Prud-hommes;* but in its French form it is more applicable to individual differences than to an extensive strike: it is a permanent special jury performing the duties of our stipendiary magistrates and County Courts; but we require a general system of mutual rights and duties suited to the comprehension and habits of our country. I think the simple English plan would be the principle on which we hire our dwellings or servants;—a mutual right of yearly, quarterly, or weekly notice as in the first, or a month's notice or a month's wages; or, if so agreed, a week's notice or a week's wages.

As this mode is understood practically, I abstain from explaining its well-tested advantages, and, in conclusion, will cite an example of successful compromise of a trade strike many years ago.

The Thames coopers, a numerous body of men of importance to our commerce, were constantly quarrelling, and often on strike: at length they wisely referred their case to Francis Place, who, from the position of a journeyman tailor, had, by industry and talent, acquired a moderate competency, and the respect of our most distinguished promoters of reform. The plan which he proposed and they adopted was, that certain conditions, rules, and prices, be mutually determined for a fixed period; that, after a fair trial, those conditions should be law amongst the masters and the men for one year certain; that they should continue on during the next year unless a notice from either party should have been given three months previously to the expiration of the first year; and so on.

The plan worked well as long as my attention was directed to it, and the working coopers presented Mr. Place with a beautifully-made little cask, bound with silver hoops, on which was engraved their expression of grateful thanks for this important service. In the hope that the above suggestion, duly modified, may lead to better times and better feeling between the talented employers and the skilful operatives, I remain, An Honorary Member of the London Mechanics' Institute.

BUILDERS' PLANS.

In the Staffordshire County Court proceedings at Stone, on 19th September, the case of Benjamin Brough *v.* John Wetton, was tried. Plaintiff is a builder at Bilston, and defendant proprietor of newly-built premises in Stone, styled the Talbot Inn. According to the statement of plaintiff's attorney, in 1857 defendant was desirous of erecting premises at a cost of 500*l.* and directed plaintiff to prepare the plans. Finding, however, that he could not raise 500*l.* he had new plans prepared for a 400*l.* house; and by these second plans the Talbot Inn and premises were built. The second set of plans were not charged for because the work was done by them, but when the settlement for the building was made the plaintiff applied for 10*l.* for the first set of plans, which were not used. The defence was that the order given by defendant, in the first instance, was for a house at 300*l.* or 350*l.* When the plans and estimates were produced, showing a cost of 500*l.* defendant said they must be reduced. Defendant never had possession of the first set of plans. 3*l.* were tendered as a gift for the extra trouble the plaintiff had been put to. Mr. R. Chapman, architect, Cheadle, said that according to the custom in the building trade the plaintiff ought not, under the circumstances, to charge for the first plans; and if he did charge he ought not to charge more than 2½ per cent. The judge briefly said that he thought the first plans were not to be paid for, and he should therefore give judgment for defendant, with costs.

SHOP-FRONTS AND PUBLIC WAYS IN THE CITY.

In a recent report to the Commissioners of Sewers, Mr. Haywood, their surveyor, has pointed their attention to the circumstance that shop-fronts are not now constructed as they were when Acts of Parliament provided for their projection to a certain extent on public ways, and says, "There is not, in my opinion, any valid reason why such projections should be granted to new buildings in thoroughfares where every inch of ground is needed for the purpose of the traffic, and where, by reason of the mode of construction, it results in what must be regarded practically as an irremovable and permanent encroachment upon the public way. I consider that whenever a brick or stone building is to be erected, no permission should be given for it to project over the public way at the ground level, but that the whole face of the walls of such buildings should be built clear of the public way, from the ground to the first-floor level. Such a regulation would prevent the permanent occupation of the public ways up to such a height as would be clear of the traffic, and yet would not be needlessly restrictive upon cornices or architectural embellishments placed far above the street level. I beg to recommend, therefore, that among your standing orders relating to projections beneath, upon, and over the public ways should be one to the following effect:—

'With regard to the walls of the premises which may be hereafter constructed facing the public ways, that from the paving line upwards they be entirely constructed clear of the public way, but such limitation is not to apply to cornices or architectural embellishments at or above the level of the ceiling of the ground floor; and that no shop-fronts be permitted to project over the public way from the face of such buildings, unless they be subsequently affixed thereto, and be capable of being removed without difficulty or injury to the part of such building.'"

The report was referred to the improvement committee.

BUILDINGS IN JAPAN.

In a paper on Japan, read by Mr. Laurence Oliphant at the meeting of the British Association, he said:—The city [Nagasaki] contains a population of about 50,000, and consists of between eighty and ninety streets, running at right angles to each other—broad enough to admit of the passage of wheeled vehicles, were any to be seen in them—and kept scrupulously clean. A canal intersects the city, spanned by thirty-five bridges, of which fifteen are handsomely constructed of stone. The Dutch factory is placed upon a small fan-shaped island, about 200 yards in length, and connected with the mainland by a bridge. While Yedo [the capital] may be regarded as the London of Japan, Ohosaka [another city] seems to be its Paris. Here are the most celebrated theatres, the most sumptuous tea-houses, the most extensive pleasure-gardens. Miaco, or, as it is more properly called, Kioto, is situated at the head of a bay, or rather gulf, so extensive that the opposite shores are not visible to each other. Yedo spreads itself on a continuous line of houses along its partially undulating, partially level margin, for a distance of about ten miles. Including suburbs, at its greatest width it is probably about seven miles across, but for a portion of the distance it narrows to a mere strip of houses. The citadel, or residence of the temporal emperor, cannot be less than five or six miles in circumference. The streets are broad and admirably drained: some of them are lined with peach and plum trees, and when these are in blossom must present a gay and lively appearance.

The houses are only of two stories, sometimes built of freestone, sometimes sunburnt brick, and sometimes of wood: the roofs are either tiles or shingles. The shops are completely open to the street: some of these are very extensive, the show-rooms for the more expensive fabrics being up-stairs, as with us. The eastern part of the city is built upon a level plain, watered by the Toda Gawa, which flows through this section of the town, and supplies with water the large moats which surround the citadel. It is spanned by the Nipon, and has a wooden bridge of enormous length, celebrated as the Hyde-park-corner of Japan, as from it all distances throughout the empire are measured.

WICKEN BONANT, NEAR SAFFRON WALDEN.

The restoration of this church, which has almost amounted to rebuilding, has just been completed, from the designs, as we are told, and under the superintendence, of the rector, the Rev. J. H. Sperling, at the expense of John Sperling, esq. of Kensington Palace Gardens. The work has been executed by Mr. T. O. Crane, builder, of Newport; the stonework by Mr. Nicholls, of Bishop Stortford. Before the restoration, the church consisted of chancel and nave,—the former, Early English; the latter, from frequent alterations, of no recognizable style: on taking it down, however, it proved to be Early English. There was a tradition in the parish that the church had once possessed a tower, and, on excavating, in order to lengthen the nave, the foundations of a round tower, including the bases of a rude and narrow arch, were laid bare. The modern west wall of the nave was also found to be chiefly composed of the *débris* of the old tower, mostly fragments of Transition Norman work. The nave has been lengthened 25 feet, inclusive of a new square tower. The chancel being very perfect, retaining its eastern triplet, side lancets, priest's door, sedile, and piscina, needed but little restoration. A new roof, of high pitch, with metal cresting and cross, has here been the only addition. The nave has been entirely rebuilt, retaining two good Decorated windows, insertions in the old walls: these have been taken as a guide in the style of the new work. The tower is capped by a stone broach spire, reaching a total height of 90 feet. The belfry stage, with its double windows deeply recessed, is a very noticeable feature.

Two large bells, from the foundry of Messrs. Taylor, of Loughborough, have been provided, the tenor weighing 15 cwt. the other 11 cwt. An ancient bell, the wreck of a peal of five, is now made into a priest's bell. Under the tower arch stands the old Norman font, plain and massive: it has been raised on two steps and furnished with a cover. The nave is benched with plain open seats: on the north side of the chancel arch is a stone pulpit, by Mr. Street, on the opposite side an oak lectern. The space over the chancel arch is relieved by Mr. Ferrey's stamped plaster on a red ground. Between the nave and chancel is a richly carved oak screen, by Rattee & Kett, of Cambridge: over the doors is an elaborate canopy terminating in a gilt cross. Two stone brackets, in the north wall of the chancel, are intended to carry an organ, the keys of which will be brought down into the stalls. All the windows in the church, except the east triplet, which is reserved for the Crucifixion, have been filled with painted glass by Lavers and Barraud. The chancel lancets contain the Evangelists and major Prophets, two in each window. The S.W. lancet has a group, "Christ blessing little Children,"—a memorial to a child of the rector. The nave window near the pulpit has the "Sermon on the Mount," another, "Our Lord in the Temple with the Doctors." The remaining windows have grissaile and quarry glass. The altar rails are of metal, and there is a good tile pavement, by Minton, in the sanctuary. An altar cloth has been promised by the Church Needlework Society. There has been no public opening as yet, though the church is again used for divine service, in consequence of several decorative features having yet to be carried out.

ELECTRO-TELEGRAPHIC PROGRESS.

The influence of the natural evolution of electricity during the past summer on telegraphic lines, in this and other countries, has been very remarkable, and, indeed, unprecedented, so far as we recollect, except in America. We have already recorded some singular proofs of this influence. From France and Algeria we have further instances to note. Thus M. Bergon has communicated to the Paris Academy of Sciences some remarkable effects produced by the equally remarkable aurora borealis of the 28th August. On the following day, all the bells of the lines which were not worked at the time began to ring: on the other lines transmission became impossible, and the galvanometers marked the passage of a permanent current. The effect was more apparent on the lines of Bordeaux, Marseilles, and the Northern, than on the Eastern and Western lines. The perturbations continued on the 1st and 2nd instant. Strong sparks were obtained from lightning conductors at Bordeaux and Toulouse. Long lines of telegraph were more easily influenced than short ones. In Algeria the atmospheric electricity seems to have taken to table-turning, and other freaks akin to those of the alleged "spirit-moving" powers. During a violent thunderstorm in the neighbourhood of Constantina, "the lightning struck one of the posts of the line of telegraph to Setif, and broke it to pieces; after which it ran along the wires to the office at Constantina, and there for the space of several minutes produced an extraordinary effect,—detonations following each other, and flashes of electricity going round the room, upsetting tables and chairs, and throwing the apparatus into great confusion. Five persons were in the office at the time, and it is thought wonderful that they were not killed or even injured. A fire was caused by the electric fluid, but promptly extinguished. It was not until half an hour after the commencement of this singular scene that the office could be entered with safety."

It is said that a contract has been made with the Gutta Percha Company, on behalf of the Government, for a cable to be laid from Falmouth to Gibraltar, 1,200 miles, which is to be ready in June next; and that this will be succeeded by one from Gibraltar to Malta and Alexandria, thus giving an independent line, free from Continental difficulties. Yet nothing, so far as we are aware, has been published in regard to the result of the important investigation undertaken jointly by Government and the Atlantic Telegraphic Company into the best mode of constructing submarine cables. It is to be hoped the Government have awaited the decision and acted upon it.

Mr. Newall has passed through Malta for Alexandria to lay a telegraphic cable from Egypt to Turkey, and another across the mouth of the Adriatic, thus connecting Turkey and Greece with Italy; and, when finished, this line will connect the Red Sea Telegraph with England.

The remaining portion of the telegraphic cable for the Red Sea, from Aden to Kurrachee, was to

be sent from Liverpool in the steamers *Imperador* and *Imperatrix* on the 30th.

The cable to connect Alexandria with this country is now to be laid through the islands of Rhodes and Scio to Constantinople, and not by way of Candia, as previously intended. It is expected to be laid in about a month by Messrs. Newall & Co. Captain Pullen, of the *Cyclops*, has fixed on Hallani, one of the Kooria Mooria islands, as a station for the Red Sea telegraph.

The bark *Wyman* is said to have left Boston on an expedition to Labrador, Greenland, Iceland, the Faroe Isles, and Glasgow, to trace the route of a new telegraph between America and Europe. How do they intend to obviate the risks of icebergs near coasts which the route of such a telegraph must inevitably cross?

Mr. Lindsay, the Dundee electrician, explained his system of marine telegraphy without any transverse wire, to a section of the British Association, at Aberdeen, and afterwards illustrated the system by experiments, which are said to have been quite successful. A trial of this system for an Atlantic telegraph is still urged; but surely an experimental line on a much smaller scale ought first to be in successful and practical operation.

CHURCH-BUILDING NEWS.

Downham.—The new church recently erected at Southery, near Downham, has been consecrated by the Bishop of Norwich. The church, which is built of Car stone, with Ancaster stone dressings, is in the Gothic style, and was built from designs by Mr. Robinson, of London, a native of Southery, by Mr. C. Bennett, of Lynn.

Scarning (*Norfolk*).—The parish church of Scarning has been re-opened for public worship. It has been new-roofed and re-pewed, with new pulpit and reading-desk. The old screen has been restored. The alterations cost 800*l.*

Cambridge.—The restorations in St. Edward's Church are now approaching to completion. The improvements have been effected by removing all the old pews, scraping the paint off the pillars—entirely discarding the gallery, and so throwing open the tower arch—abolishing the garret windows, levelling the floor, and fitting the church throughout with uniform wainscot sittings. The walls of the nave have likewise been rebuilt, and four square unsightly windows have made way for others of a more ecclesiastical, though, perhaps, not very satisfactory character: the wooden roof of the chancel, which was plastered over, has been exposed to view, and a blocked-up window at the end of the south aisle replaced. With regard to the tower, an improvement has been made at the west end by discarding the portico, and substituting for the old doorway one of Gothic design. Above is a new stained-glass window. The roof has been lined out, strengthened, re-tiled, and new lead laid on. It is not yet decided where the organ shall be placed. The improvements have cost about 1,550*l.* The east end is to be restored at the expense of members of the University, as a mark of respect to the Dean of Ely: for this purpose, plans of a new east window, and an arcade beneath, prepared by Mr. Scott, are in the hands of Messrs. Rattee and Kett, who have contracted to finish them by the end of October.

Banbury.—The Cemetery Chapels are in progress. They are detached, and will be built of rubble, with stone dressings to the windows, &c. They are precisely similar in detail, comprising a *porte cochère* of dimensions sufficient to admit the hearse and mourning-coaches. From the *porte cochère* you enter the nave, with pewing on either side, for bearers and mourners. From the nave, under a moulded arch, is the chancel. The exterior has the sides of the nave gabled. The style adopted is Early English. The western gables support an arched and moulded bell turret. The roofs are to be covered with ornamental tiles, laid in colours; and the woodwork to both interior and exterior to be stained and varnished. The lodge, which will stand upon a raised terrace, is in keeping with the chapels, and built of brick, with coloured arches to all external openings, and has the usual accommodation for sexton. The contract is being executed by Messrs. Orchard, of Banbury, builders. The architect is Mr. H. Edwards, of London.

Edenbridge (*Kent*).—It is proposed to make some improvements in the interior of the parish church. The principal is to remove the old unsightly pews, and substitute open seats or benches. The removal of the pulpit and reading-desk will do away with objections. The chancel itself is in a very indifferent state of repair, and it forms part of the contemplated alterations to restore this portion of the building, and free it from the great accumulation of earth and rubbish by which it is encumbered on the outside. Some of the windows also require repairing. An appeal for contributions has been responded to, between 600*l.* and 700*l.* having already been subscribed.

Sheppy.—A slip of land has recently taken place at Warden Point, on the north-east end of the Isle of Sheppy, which has placed the ancient church of that parish in great danger, as the east end of the church is only 41 feet from the edge of the cliff.

Cheltenham.—Preparations are being made for laying the foundation of a temporary church at Cheltenham, which is intended to accommodate 1,500 persons. It is said that the money about to be expended in this church would be amply sufficient for the enlargement and restoration of the parish church.

Burbage (*near Buxton*).—The foundation stone of a new Wesleyan Chapel has been laid here. The architect is Mr. R. R. Duke, of Buxton.

FARNHAM CHURCH, ESSEX.

This church, which has been rebuilt at a cost of between 5,000*l.* and 6,000*l.* was opened on Tuesday.

It deserves some description from the liberality bestowed in the carrying out of the work, 4,000*l.* having been subscribed by Robert Gosling, esq. of Hassobury, and the remainder of the expenses is undertaken by the Rev. W. J. Copeland, the rector. The works have been carried out from the plans and under the direction of Mr. Joseph Clarke, the Diocesan architect; Mr. Chas. Foster, of Whitefriars, being the builder; and Mr. Thos. Lansdown the clerk of works. The church holds 300 persons, and consists of a chancel 30 feet long and 17 feet 6 inches wide; a chapel on the north side with the nave 50 feet long and 20 feet wide; and a north aisle the same length and 14 feet wide. On the south side is a porch; and a large massive tower stands at the west end, capped with a pointed roof: the walls are built very thick of solid brickwork, faced with flint, and the stone is from the newly opened quarries of Mr. Thompson, of Ancaster, which bid fair to supersede some of the inferior stone which of late years has been introduced; the nature and quality of this stone (of which we gave particulars some years ago), being borne out by the way in which it has stood for centuries in most of the churches of the eastern counties. The chancel is covered with an oak roof, all the rafters being ribbed. The reredos and carving throughout are by Farmer, and have been ably executed. The tiles are Minton's. There are single rows of oak seats in the chancel, with the prayer desk on the north side, and a lectern supported by serpentine shafts springing from the low cancelli under the chancel arch. This, and other parts, are supported by red marble from Darlington, and some very beautiful specimens of red and green serpentine, with red granite and Cornish polyphant, have been used in other parts: the chancel and aisle roofs are of deal; the pulpit is of stone, with marble shafts. The nave and aisle are benched with solid low oak seats. The tower opens to the church, and is parted off by an oak parclose; as is also a chapel on the north side of the chancel, which will be used for a vestry and for an organ chamber. All the oak has been carefully rubbed and beeswaxed, and in no part varnished. The font springs from foliage rising from out of six small Devon marble shafts. The porch roof is oak, with an open lattice-gate and shutters to close in bad weather.

It should be said that all the external ironwork is galvanized, and that Messrs. Mears have put up a peal of six bells. The opening was a day of great rejoicing in this quiet village.

THE DRINKING-FOUNTAIN MOVEMENT.

The Coalbrooke Dale Foundry Company have prepared a fountain for the Regent Circus, which is about to be put up under the superintendence of the Drinking-Fountains Association. Some delay has occurred, in consequence, it is said, of the Foundry Company desiring "to finish in the first style of workmanship what is considered a work of art." It is to be hoped that it may prove so. The association has done nothing in that way at present.——The fountain in Marylebone-road is about to have gratings fixed for the overflow of water, which had been complained of.——A clock-tower, with three fountains attached, is about to be erected, at the expense of some of the residents of South Hackney, on the hitherto unsightly piece of ground known as "The Triangle." The building will be of Bradford-on-Avon stone, in the style of the florid Gothic period. It will be 45 feet high, with three drinking fountains, at alternate angles, and troughs at a short distance. The clock (presented by Mr. Fairer, a tradesman) will have three illuminated dials, 4 feet in diameter. The water will be supplied from a well sunk under the centre, and raised by the machinery of the clock.——At Sandgate, a fountain in the road adjoining Encombe House has been completed, by Mr. Temple, of Folkstone, builder, at the sole expense of Mr. James Morris. Mr. F. S. Tyssen, of Horn-street, has built up steps to prevent the waste of water, and supplied ladles to one, it is said, of the finest springs in Kent, situated in Horn-street, and which is now open to the public. ——Three fountains have been erected in various parts of the town of Scarborough, including one presented by Mr. Henry Walker.

THE CHAMPIONS OF ANGLO-CLASSICISM.

Sir,—Before the question as to the style to be adopted for the new Foreign Office buildings is disposed of definitively, I hope a little of that space which you have accorded to architects and others may, for once, be granted to an artist.

Mr. Street, by his letter in the *Builder* of last week, has fairly expressed the astonishment which the votaries of painting and sculpture have felt on the subject of the late demonstration before Lord Palmerston; but, loving our sister art of architecture (as most artists now do), I would protest against the assumption of her championship at the hands of those who have done so much to involve her in dishonour.

Our Premier, apparently bent upon playing the part of a sort of art bottle-holder in the exotic interest, shuts his eyes, and dashingly jumps to a conclusion in favour of the style which he describes as "the Horizontal, or Classic, or Italian, or whatever name its branches may have gained."

This system of design, we are informed, "allows a reasonable economy to be observed internally," and further, that his "mind is made up in favour of that style." Therefore the advocates of the "Horizontal," or "Classic," or "Italian," naturally enough hail their protector with warm applause, and in solemn deputation tender him their congratulations on his quick perception in art matters.

Mr. Street's letter renders it unnecessary further to comment upon this procedure of those who still cling to the hope that a living Classic art in England is a tenable theory; but as these gentlemen seek, in the face of the common history of art, to adorn their tale by complacent references to the works of Michelangelo, Bramante, Sansovino, Palladio, Jones, and Wren, may not the moral of their pleading be pointed fairly by some illustration of their condition, as declared disciples of the great men whose names they so readily adopt as watchwords against the Goths?

If ancient art, whether Christian or Pagan, civilized or barbarous, teaches anything of vital import to that of modern time, the lesson, while displaying the kindred harmony which ever links together all true architecture, sculpture, painting, jewellery, pottery, metal, or loom-work, whether for the service of prince, prelate, or peasant, will be evinced most emphatically in its never-failing signs of devoted earnestness of purpose.

Without this first principle of art-life, no Parthenon would have been possible; nor would Egypt, India, or Assyria furnish, as they now do, in their remnants of architectural glory, a theme to the traveller, or a light to the student or historian.

Permit me, then, as our Barrys, Tites, and Donaldsons urge the claims for Anglo-Classicism on the high ground of ancient precedent, to try the value of such well-sounding testimony by inquiring in what manner it is supported by their works, or, which is more to the point, justified by their sincerity.

Foremost amongst those whose precepts and practice should be as guiding beacons in the student's path is Sir Charles Barry. By his academic honours and exalted position, surely the exalted state of our architectural art is fairly represented at his hands, and the well-being of its future in a serious degree incurred to his charge. But, at the very outset, the student is reduced to an extraordinary dilemma. He finds that at Brighton Sir Charles led the way to his reputation by the erection of a church in *Gothic*. At Islington he again builds a church in *Gothic*. At Birmingham, he confirms his promise by the erection of a domestic building of importance in *Gothic*. In Pall-Mall, he suddenly casts aside his principles of design, and displays his art in the *Classic* "Reform," and "Travellers'" Clubs.

Then, every thought and feeling just noted is contradicted and opposed in his gigantic work in *Gothic* at Westminster; when, presto! he is again found in *Classic* robes in Bridgwater House and the Treasury buildings. But the student is yet doomed to further bewilderment by Sir Charles's declaration, before the House of Commons Committee, that the great representative of his art—"the Houses of Parliament—would not only be not injured, but positively *improved!* by the erection of a Classic building contiguously to it."

Mr. Tite, too, another bitter opponent of Gothicism, opens his professional career by a very *Gothic* church in Regent-square, and afterwards belies his art in the erection of the Classic Royal Exchange. "But," says your Classicist, "we *admit* the superiority of Gothic for churches—but for churches only." Turn we then to Professor Donaldson, and what words will indicate our mystification upon finding him represented in Gordon-square by a *Classic church* and a *Gothic domestic building*. So, throughout the chapter, is exhibited this extraordinary parody, which would make the hair of the great masters stand on end; and yet forsooth we are reminded of the noble art that flourished in their days.

If Lord Palmerston cannot comprehend that all true architectural systems testify — in the labourer's cottage equally with the palace or temple—that in construction and the humblest internal fittings, equally with the grandeur of external façades, the stamp of art must be alike fully manifested, and in a degree which has never been set forth by Anglo-classicism;—let him, at least, seek Classic or other counsel that does not strain at catholicity of taste, and swallow a pantomime of practice which our painters and sculptors would scout, and which would be fatal to the well-being of any religion, art, or literature, to which a man may worthily become devoted.

AN ARTIST.

FOLLIES IN BUILDINGS.

WHAT ought to be presented to public eyes which are ever on the watch for those objects of attraction which raise that first motive of the human soul—curiosity,—and what, besides, the public expect to find, though they are often disappointed, are useful and successful results in the arts. With that portion of those peripatetic observers who, by the habitual use of the senses and the habit of examining the effects of different styles in buildings, have some discernment of their respective merits, the houses and the shops which line the streets of a great city are the frequent resource of their perambulations. They will give all the glory deserved by those who have excelled in some talent which one or a few more than the rest will display: they may even exalt and magnify what they see to be excellent, but will easily distinguish them from works that carry some mark of the want of taste, conventional considerations, and common sense. They will remark some of these city structures so *outré* and outlandish, that there will be some difficulty in understanding the meaning of the eccentricity of the builder of them, even if they engage an interpreter. But buildings closed in a neighbourhood where tradesmen are glad, in a busy thoroughfare, to tenant a shop for the sale of their merchandize; others going to decay, and looking as if they were "in Chancery;" one the production of the meanness and mercenary views of men, deserted and spoiled of its accessories, and deprived of everything which contributes to its convenience, its fitness, and agreeableness; another with a crack caused by a weak foundation; another dilapidated, and so strongly shored up on one side, as to threaten the fall of the other; things done without principle, without system; caprices of every kind; empiricism of every sort; shams disguised under coverings, arranged with art,—mock ornaments; the *cassolettes* or false chimneys, once in fashion in old French buildings; carcasses of houses rotting, and making one turn away from them; a bridge over a stream that is never traversed, and which has no outlet;—such objects not being useful, but only eyesores, are disdained: time is too precious and business too pressing to be employed upon them: they exist only to be disliked, and they are justly called "follies." Their origin dates as far back as the confusion of languages which took place at the building of the Tower of Babel, the first monument of the pride and weakness of men. The worst of them is they are not like the "follies of a day," but exist very often for many years. They are imitated by the interested, the ignorant, or careless. It is only minds tutored in the rigour of correct study, sound and well trained by discipline, who will escape their contagion. If any advantage is to be derived from such derelictions in art, it is learning from these enemies of taste what to avoid. It is a great pity that these vices and follies in the construction and decoration of street houses and public edifices should frequently occur, and create on foreigners unfavourable impressions of our capabilities, or of our negligencies in architecture. But our allies, the French, know that they themselves are not without their faults. The greater number of the "barriers" outside Paris are monstrous deformities in architecture: they are specimens of order and proportion in their art, reversed. The attempt in these is by heavy, cumbrous parts, most badly disposed, and by banding and rusticating the columns, as if their natural expression of support or of strength was not sufficient; but the means are altogether heterodox, as what does not strengthen, weakens: the effect is very unpleasing. One would suppose that, at the period that such works were constructed in such taste, the moral system must have been very corrupt. The project put forward and published in the *Constitutionnel*, in December, 1858, to enlarge Paris, by extending the limits of the *octroi* to the line of the fortifications, may, it is hoped, direct fresh and more scrupulous attention to the design of these "barriers," proverbially more formidable and frowning in their aspect, than any things of the kind that were ever invented. Every Londoner remembers the ridicule which was cast upon the royal statue, which so much offended the sight of every one, at King's Cross. Happily it did not remain long on its conspicuous site, to irritate the feelings and shock the sentiments of the people. It amused one to think that superior talent had not been employed on such a spot of traffic, and for a monument erected to one of our monarchs. It spoke very unfavourably of him who had given to the sculptor the commission of the work. A foreigner seeing it would at once say that the art of sculpture employed to such important purposes was in decline, or the talent for it was very deficient. Indeed, some of England's failures and abortions in public buildings, in statues raised to eminent men, as well as their bad position, have led many foreigners to think that the spirit of commerce among us checked the genius of the arts and prevented the happy enthusiasm which ought to preside at their production. But this is not a right judgment; for though the two things are from entirely different sources, it must not be forgotten that, in such a vast and powerful country as England, it is capable by its government and by its artistic resources of excelling—and it does excel—in both. It is true that England and many nations have been enriched and become great by commerce, and by it the arts have been encouraged and developed. It is admitted that

> "————————Art thrives most
> Where commerce has enriched the busy coast."
> *Cowper.*

But no one who has seen the *Place de la Concorde*, or the *Piazzas*, with their palaces and beautiful bronze and sculptured fountains, in the great cities of Italy, can with any degree of satisfaction look at Trafalgar-square. Although there are some redeeming features, yet this spot might have been made, if talent had been well chosen, and labour well directed, one of the grandest squares in the world. If it be possible now, which it is, we hope one day its aspect will be very different; when a superior change will influence the physiognomy of the whole capital, and when it will be the theatre for the manifestation of the finest works that the most brilliant talents and most perfect arts of the country can produce. Greater things could be done: these vices and follies could be remedied; for British art now holds a higher position than it ever did at any former period. It is the merit of Government to find the proper men, and to furnish to genius the occasions of developing itself.

F. LUSH.

THE GREY-FRIARS, READING.

THE following has appeared in the *Reading Mercury*:—

SIR,—I am sure that every member of the corporation must have smarted under the remarks made by Mr. Godwin at the Grey-friars, with reference to their intention of not only continuing, but laying out money to restore the police cells in that building.

There is no doubt that it is a disgrace to the town of Reading that this house of God should have been made a den of thieves. But paradoxical as it may appear, there would seem to be no other way of ultimately restoring that building to its original sacred purposes (and nothing short of this would satisfy the exigencies of the case), than by *temporarily* refitting it as a Bridewell. In short, I can see no other plan which could eventuate in its becoming again a church of God. Suppose the corporation decided on removing the cells and building them elsewhere, they would then probably sell the Grey-friars at a public auction. Its value may be put at 1,000*l.* Is any one prepared to give 1,000*l.* for the sake of restoring it to pious uses? If not, who can secure its not being turned to profane purposes? Who can engage it would not be destroyed? On the contrary, the present intention of the corporation gives a guarantee for the security of the building without injury. It allows time for the raising a fund of money sufficient to purchase the site, as soon as the corporation fulfil their purpose of erecting a new police-station, with magistrates' offices. And it gives those who are interested in the complete restoration of the Friary, not only in its structure, but in its holy services, time to stir up the public mind to advance those sums which shall be required to accomplish this desirable object. Those sums must be large, and will require a long period and earnest efforts to obtain: 5,000*l.* I am informed, would be little enough, viz. 1,000*l.* for the purchase of site, 1,500*l.* for endowment, 2,500*l.* for restoration. This vision would vanish at once, were the *locks-up* removed at present.

The visit of the Archæological Society will, I trust, facilitate the scheme now suggested. If the utilitarianism of the corporation should for the present expose them to the sneers of savans, and the rebukes of ecclesiologists, they must console themselves with the hope that they are contributing to a final accomplishment of the very object which both savans and ecclesiologists so justly desire. I, for one, shall be happy to help to form a committee for the purpose of raising money for the purchase of the site, that it may be secured hereafter for religious uses.

EDWARD WELLS, M.D.

ST. SEPULCHRE'S CHURCH, SNOW HILL.

WE have received two or three letters on the subject of the recent competition for a stained-glass window, but do not find ourselves in a position to go further into the discussion. The paragraph in our last should have begun,—"A correspondent asserts that the competition was *not* decided upon the proper ground." The context, however, made the writer's meaning clear. We give part of one letter received, as it touches another point:—

It may be true, as your correspondent observes, that public vestries, from having no responsibility, are not the most competent to form a just opinion of art, or even propriety, as you may learn from the following fact, and to which I call your attention. The church in question suffers much from the disfigurement produced by the book-stall immediately adjoining it, and the Parish Estates Committee have had under their consideration at different times its removal, with the intention of throwing open and obtaining a public view of the west side of the church and tower; thereby affording a free current of air, and more perfect drainage from that part of the edifice, which is encumbered all along to the back churchyard with small and objectionable buildings.

In taking a first step towards that end, it was thought desirable to remove what is called the sexton's residence, situate in a small yard at the back of the book-shop, surrounded by high walls, and having a space of about 8 feet by 4 feet as the only means of getting light and air. It had been thought so objectionable for years past, that each churchwarden in his turn has attempted to get rid of it, and now that the church is under repairs another attempt has been made, and resisted by the vestry for the present.

Although the attention of the Medical Officer of Health for the City of London had been drawn to the subject, and his opinion obtained, which states "that it is unfit for habitation, and incapable of being made so, from insufficiency of space, light, and ventilation;" yet this identical vestry, disregarding the claims of the public, ignore the opinion of one so eminent as Dr. Letheby; declare sanitary laws "mere humbug;" and pass a resolution instructing the parish surveyor "to report what alteration can be made in the sexton's residence in the church porch to improve the same, and the cost thereof."

Such is the *vox populi* of St. Sepulchre's parish; and it behoves the public, the press, and the intelligence of the day, to make themselves heard in such a manner as to impress the minds of those composing the vestry, that public opinion is directed towards them, and should be respected.

A MEMBER OF THE PARISH ESTATES COMMITTEE.

THE STRIKE, AT THE POLICE OFFICES.

AT *Westminster* Mr. Cummings, formerly an inspector of the B division, and now assistant-superintendent at Messrs. Kelk and Co.'s, contractors, Pimlico, attended with one of their men, a sawyer, to seek the protection of the law, under the following circumstances:—

The sawyer said that, after making some little purchases on Saturday night, he went into a public-house at Pimlico, where a man called him a blackleg and other very offensive names, telling him he had no business to take the man's (his predecessor's) work at the saw-mills. There were ten men on complainant, all at the same time, using this description of language, and the man spoken of struck him a violent blow in the eye, and applicant then returned the blow. Applicant knew nothing whatever about the man who preceded him at the mills, nor of his leaving.

Mr. Arnold said that in this case he should issue a warrant against the man, under the statute for intimidating workmen: and if the case were proved, in all probability, he should send it to the sessions for trial.

At *Marlborough-street*, John Canavan, a bricklayer's labourer, was charged with annoying workmen in the service of Mr. James Abbott, builder, Great Pulteney-street.

Mr. Abbott said the defendant was in the continual habit of annoying his men. At the present time he had a building contract for the alteration and enlargement of the National School in Marshall-street, where he had in consequence his men at work. They had repeatedly complained to him of the proceedings of the defendant: twice that day (Tuesday) he had repeated the annoyance. From information given him he went to Cross-street and saw defendant with several persons round him. On asking him what right he had to interfere with and annoy his men he ran away. A policeman brought him back, and he gave him in charge.

William James, a labourer in the employ of Mr. Abbott, said,—A few minutes before six that morning he was sitting on a door-step waiting for the signal-bell to go to work, when the defendant came up and said, "Well, mate, have you got your ticket? Come, what's your number?" Continuing by his remarks to annoy him, he told him if he interfered much more he would take him to Marlborough-street. When the bell rang he was able to get away by going on to the premises; but at dinner-time he way-laid him again, and asked him about the "Document," telling him he would punch his head, and calling him "a thief." He himself was a non-society man, and took his coat off, being challenged by the defendant to fight it out; but he thought better of it, and told his master. A day or two ago he met me in Silver-street, and followed me with similar annoyance, calling me "Docky" (from document), but I managed to get away from him, and took no notice.

The defendant said there were witnesses to prove that he was the person annoyed by Mr. Abbott's men.

Mr. Beadon said, the magistrates of this court were determined to protect with the full powers of the law the quite and industrious workman from molestation. It was perfectly clear in this case that defendant had annoyed the men in Mr. Abbott's employ, and as clear that a challenge had been given to fight. If the witness James had not pulled off his coat, ready to accept the challenge offered, and by his words and manner irritated the defendant, he should undoubtedly have dealt with the case more severely. As it was, he should call upon the defendant to enter into his own recognizance to keep the peace for two months, and he would strongly advise him to be cautious how he interfered with well-disposed workmen in future.

Books Received.

Memories of Rome. By Denis O'Donovan, Esq. London: Catholic Publishing Company. 1859.

Mr. O'Donovan's book consists of some gracefully written recollections of the various "sights" in Rome, more particularly religious celebrations, viewed from a Roman Catholic point of view. Apart from the desire to afford pleasant reading, the ruling purpose of the book appears to be to show, with Lalande, that, "the pomp which surrounds the Pope, and the ceremonies of the Roman Church, are the most majestic, the most august, and the most imposing that it is possible to see." The condition of the people committed to the care of this church, the result of the practice of these "most imposing" ceremonies, appears altogether to escape consideration, and it is not within our province to discuss it.

The Climate of Brighton. By William Kebbell. London: Longman & Co. 1859.

The author of this intelligent work is physician to the Sussex County Hospital. Though extolling the natural advantages of Brighton, he does not spare its sanitary defects; for, unfortunately, Brighton, like too many others of the most notable towns in the country, is sadly wanting in the most ordinary sanitary requirements, and, like them, suffers from all the evils consequent upon an impure state of the atmosphere and a high rate of mortality. It is a charming place, nevertheless, and might be made the healthiest.

Statistical Notices of Publications on the Constructive Arts, whether of Architecture or Engineering; and of Works on the Military and Naval Science. By John Weale, London (1822-1859). London: printed for private circulation. 1859.

The purpose of this pamphlet is "to give individually an answer to statements which have been put forth by Englishmen as well as foreigners, that we in England lack enterprise in issuing and incurring the expense of those works essentially useful to an industrial and wealthy community." Mr. Weale has simply given a list of those publications which bear his name as publisher, together with the whole cost of publication, and he anticipates that others similarly engaged will do the same, and thus set forth what has been done in this country in respect to works of art.

This very interesting list shows a sum of no less than 228,431*l.* as the cost of publications issued by an individual publisher, in the course of thirty-seven years. Of this sum 27,034*l.* were expended by authors, and 201,397*l.* at Mr. Weale's own risk. The items are both interesting and useful. We may quote a few of the more important. The architectural works of the Adamses, in three volumes, atlas folio, published at 7*l.* 17*s.* 6*d.* in 1822, cost the publisher 775*l.* The Supplement to Stuart and Rivett's Athens, imperial folio, by Cockerell, Donaldson, &c. published at 6*l.* 12*s.* in 1825, cost the publisher 1,250*l.* Cockerell's Temples of Jupiter Panhellenius, and of Apollo Epicurius at Bassae, published in 1859, folio,—price (of 150 copies only for sale) 5*l.*,—cost the author 1,350*l.* for 200 copies. Weale's Series of Educational Works (1853 to 1859), cost the publisher 14,000*l.* Elmes's Life and Works of Wren (1823), 4to. 3*l.* 3*s.*, cost the publisher 1,575*l.* Gwilt's edition of Sir William Chambers's Civil Architecture, two vols. imp. 8vo. 4*l.* 4*s.*, cost the publisher 1,310*l.* Mackenzie's Architecture and Restoration of St. Stephens's Chapel, Westminster, Colombier folio (1844), 4*l.* 4*s.*: cost the Government 3,250*l.* Pugin's Principles of Christian Architecture (1841), 4to. 15*s.*; cost the publisher 500*l.* Weale's Rudimentary Series of Works (1850 to 1859), cost the publisher 43,500*l.* Weale's Works of the Old Masters (1841), two vols. imp. folio, 10*l.* 10*s.*, cost the publisher 3,500*l.*: and so on.

It is to be hoped that Mr. Weale has received a proper reward for his enterprise.

VARIORUM.

In a tract, titled "Mr. Goldsworthy Gurney's Account of the Invention of the Steam Jet or Blast, and its Application to Steamboats and Locomotive Engines, in reference to the mistaken Claim put forth by Mr. Smiles in his Life of the late Mr. George Stephenson" (Barclay, Castle-street, Leicester-square, printer), some curious and interesting particulars are given, not only as to the first application of the steam blast to high-pressure engines by Mr. Gurney and others after him, but as to the locomotives for common roads, which Mr. Gurney also did much to bring before the public in a practicable shape, and which the greed of turnpike trusts, in obtaining Acts of Parliament securing oppressive tolls upon such carriages, even before they were fairly realized or ever ran upon the roads, did more, perhaps, to suppress than the railway locomotives did; inasmuch as they would have actually been in the field before the rail, had it not been for the check thus given to their adoption, and might have prevented the development of the railway system, at least at the time. The circumstance may thus not be one to be much regretted, certainly; but, at all events, the invention of the common road steam-carriage was a very interesting one, and it not only preceded the railway locomotive, but there seems some probability of a reversion to it in the shape of traction-engines such as those now used by Government at the arsenals, and proposed for use in the field of war.——"Natural History for Beginners, by James Owen" (Longman & Co.), forms two little volumes of the excellent School Series edited by the Rev. G. R. Gleig, M.A. Chaplain-general to her Majesty's Forces. They are attractive as well as instructive little books, well adapted to their purpose, and are illustrated with a good many engravings of animals.——"The Biblical Reason Why" (Houlston & Wright, Paternoster-row), is a family guide to Scripture readings and a handbook for Biblical students, by the author of a series of "Reasons Why," scientific, historical, &c. The present volume contains the results of much curious research, and sheds a popular light upon various obscure points in scriptural narrative, parable, figures of speech, &c. ——The last number of *The Bookseller* (21) is a very good one, containing much interesting matter. It includes a notice of Parker's third volume of "Domestic Architecture in England," which brings down the subject to the time of Henry VIII. and one of the "Facsimile of the Sketch-book of Wilars de Honecourt, an Architect of the XIII. Century," which we first introduced to the English public. The English editor, Professor Willis, says: "The present text differs in many respects from the French edition, although based upon it and the essay of Quicherat, whose labours were unhappily cut short and left imperfect. I have ventured to add to them my own observations. Each plate is furnished with its own explanation, and, when requisite, additional ones, to show the variations in existing buildings. Those which relate to geometry have either received large additions or are entirely new."

Miscellanea.

Water Rights.—The *Saturday Review* contains an elaborate *résumé* of the most important cases tried with respect to water rights, and briefly states the substance of two recent decisions of the House of Lords on this very ticklish question. The practical effect of these decisions is that all water which cannot claim the description of a definite stream shall be absolutely outlawed, and may be seized by every one who can reach it, in any way and for any purpose which he may choose. On the other hand, water flowing exclusively in a natural channel, whether subterranean or superficial, is declared to be entitled to the protection of the law.

Loss of Tools at Hackney.—In consequence of the mention in our pages of the destruction by fire at Mr. White's, Hackney-wick, of the tools of his workmen, William Ellice, Esq. (5*l.*) and some other gentlemen sent us subscriptions in aid of the men. On applying to Mr. White, however, he informs us that, through the kindness of Mr. D'Eyncourt, the magistrate, Miss Burdett Coutts, and others, his men require no further assistance, having had all their tools restored. We have, therefore, returned the money to the kind donors.

Engineering Bravery!—The London correspondent of a country paper says,—"Audacity was one leading feature of Brunel's engineering character. I heard an anecdote which illustrates this strikingly. Brunel held views in contradiction to those of his brethren as to the employment of a peculiar kind of cement in railway bridge building. Other engineers objected to its use, as it hardened too fast to allow the work to settle properly. Not so Brunel. Trusting to his own view, he used this cement in one of the first large bridges constructed by them for the Great Western line. It fell soon after its erection. Brunel entered the room where the directors were assembled, in discomfited conclave, to discuss the accident. 'I congratulate you, gentlemen, on the fall of the bridge,' was Brunel's entry on the subject. 'Congratulate us! on an accident involving disaster and the loss of —— pounds?' was the angry and amazed rejoinder. 'Certainly,' said Brunel coolly. 'I was just about to put up 200 bridges in the same manner.'"

Arresting a Workman.—A case of importance to working men was decided by the Wolverhampton magistrates on Thursday. Messrs. Farmer, of that town, had given notice to the men in their employ that they contemplated a reduction of the prices hitherto paid for a certain description of work. The new terms were accepted by some of the men, but rejected by others; among the latter being George Humphries, who at once quitted the premises, and proceeded to Birmingham, where he obtained employment. Messrs. Farmer, thinking that their men were bound to give fourteen days' notice before leaving, obtained a warrant against Humphries, who was arrested, and conveyed back to Wolverhampton, in charge of an officer. The magistrates, however, decided that the Messrs. Farmer had made an important mistake, and that their notice of the reduction was a virtual cancelling of the engagement under which Humphries had entered their service. The charge against the man was therefore dismissed, Messrs. Farmer being condemned in costs. It was announced at the same time that Humphries intended to bring an action against his late employers for false imprisonment; but the difficulty was arranged in court, Humphries compromising the matter by the acceptance of 5*l.*

The Architectural Society of Northampton.—The members of the Architectural Society of the Archdeaconry of Northampton formed a party last week to visit Catesby House previously to the buildings being pulled down. The property has recently been purchased by Mr. Attenborough, of Brampton Ash, who is about to pull down the existing house and chapel, which is in a state of complete ruin, and to erect a new house and church for the use of a district which appears, of late years, from the want of a resident proprietor, to have been somewhat neglected. The history and character of the priory were given in a paper read by Mr. James, and published in the *Northampton Herald*, of last week. The present house stands upon the site of the former priory, of which, however, very little now remains, the principal portions being a window in the south wall, the arch of which is seen from the outside, and is supposed to have been the window of the refectory and the work of the thirteenth century. The other portions of the old priory consist of three sedilia, a priest's door, and a piscina. There are also the remains of a window in what would appear to have been the south wall of the chapel. The present chapel, which is almost in a state of ruin, is, Mr. James believes, of the late Tudor period, the high pews, the carving and workmanship of which is exceedingly beautiful, belonging to the Jacobean age. Over the chapel door are the arms of Charles II. in a state of excellent preservation, and a strong desire was expressed by Mr. James, Mr. Bloxham, and others, that the escutcheon might be removed to the chapel about to be built, a request which it is believed will be acceded to by Mr. Attenborough, who expressed his desire to preserve any object of interest, the preservation of which would not interfere with the convenience or utility of the new church.

Gas.—The Plymouth and Stonehouse Gas Company advertise the reduction of their gas to 3s. 9d. per thousand. Following our advice, this company has proved that the greater the reduction in the price of gas, within a certain limit, the larger is the consumption, and the consequent profit to the shareholders. The yearly dividend of the company is now at the rate of 10 per cent. on the old shares, and 7½ on the new. Formerly, we believe, when the price of gas was much higher, the dividend was but 6 per cent.

Crystal Palace District Gas Company.—At the half-yearly meeting in September, the directors of this company report the continued successful progress of the company's operations during the half-year. They state that they have resolved to enlarge the plan suggested in their last report for the construction of new works; and have proceeded some way in the erection of a retort-house and the necessary buildings for the apparatus connected therewith. These works they hope to have in full operation for the coming winter. According to the accounts made up to the 30th of June, the profits on the half-year are 1,198*l.* 18s. 5d.; out of which sum the directors recommend the declaration of a dividend after the rate of 6 per cent. per annum.

London and Middlesex Archæological Society.—The next general meeting of the London and Middlesex Archæological Society is fixed to take place at Harrow, on the 6th instant. A local committee, consisting of the Rev. J. W. Cunningham, M.A., Vicar; Rev. R. J. Knight, M.A.; Rev. B. H. Drury, M.A.; Rev. R. Middlemist, M.A.; and several others, with Mr. Henry W. Sass as hon. sec. of the Society, has been formed to make the necessary arrangements. It was hoped that Lord Northwick would have been able to preside on the occasion of the meeting, but engagements in another county will prevent his doing so.

Strikes and Mortality.—It has been found that the mortality in Sheffield and Northampton was high during the strikes. The registers afford the means of showing the mortality of the families of workpeople in different trades, and will enable the public to judge whether similar results are produced by the strikes in London among persons in the building trades. Of bricklayers, 2 died in the week; of bricklayers' wives, 1; of bricklayers' children, 5; of carpenters, 3; of carpenters' wives, 5; of carpenters' children, 16; of painters, 6; of painters' wives, 1; of painters' children, 12; of plasterers, 1; of plasterers' children, 2.—*Preston Guardian.*

An Industrial Training School for St. Pancras.—On Wednesday afternoon, at a meeting of the representative vestry of St. Pancras, the question of the erection of industrial training schools for the pauper children of St. Pancras was, after a long and very stormy discussion, finally set at rest. Mr. Austin moved, Mr. Farrer seconded, and Mr. Brettingham and other gentlemen supported a motion to erect schools on a site offered by the Burial Board, at Finchley, at a cost of 12,000*l.* The Rev. R. Eckett moved, and Mr. J. Wilkinson seconded, an amendment, that before such grant was made the plans and specifications be laid before the Board. Five or six amendments were subsequently moved on this being negatived; and, after several divisions, the original resolution was carried by a majority of three. The money is to be borrowed, and paid back in instalments going over twenty years.

National Association for the Promotion of Social Science. — The *Bradford Observer* says: "Great progress has been made in bringing the prospects of the meeting into a definite shape. The number and importance of papers daily increase. Nearly 200 invitations, including sixteen to foreign embassies in connection with the International Association, have been issued to the most eminent and working members. The replies to invitations have come in daily, a large majority of which are in the affirmative. It is expected that Lord Shaftesbury will deliver the opening address on the evening of the day of assembling, in St. George's Hall. The International Association, for obtaining a uniform decimal system, will hold its fourth annual meeting at 4 o'clock the same afternoon. Lord Brougham is expected to deliver his address on the history of the National Association, and the chief social questions of the past year, on Tuesday morning, the 11th of October, and the presidents of the five sections will give their addresses, one each day, beginning on Tuesday, previous to the members betaking to their several departments. There will be one evening exclusively devoted to a meeting of the working classes, who are wished to occupy every available space in St. George's Hall."

The Southern Main Drainage.—A large number of excavators, in the employ of the contractor for completing the main drainage south of the Thames, commenced operations on Wednesday morning in Deptford Broadway, and will continue their work along Church-street to Deptford Creek. A large amount of earth was cleared out during the day.

Reward of Courage.—A gold medal and money, subscribed for by the inhabitants of the Ward of Cheap, have been presented to the fire-escape conductor, George Low. The medal, made by Mr. John Bennett, bears on one side the following inscription:—"Medal of Honour, Cheap Ward, City of London, 1859." On the other side is engraved—"Presented by the inhabitants of the Ward of Cheap, in the City of London, to Conductor George Low, as a memorial of their appreciation of his conduct in saving fourteen lives, on the occasion of a fire in Cheapside, 18th July, 1859."

Archæological Association for Hampshire. A "Hampshire Clergyman" asks,—"Why has not Hampshire its own archæological association? We have had meetings of the general societies within our county, and these meetings have done much good. But the county has not yet been by any means thoroughly explored. A Hampshire Association, under the presidency of (say) the Earl of Carnarvon, with a strong council of Hampshire antiquaries, might do much towards stirring up a local interest in such matters. It might further undertake the compilation and publication of a full county history. The materials for such a work are abundant: the work itself is a thing wanted. Of course I am not unacquainted with the compilations of Warne, Mudie, and the like. But not one of them is the county history which Hampshire properly deserves."

A Statue for Wren.—In your last week's *Builder*, you have given a view of a grand fountain, surmounted by a statue. Perhaps you will allow me to say that for some time past, in the columns of your respectable contemporary, the *City Press*, a proposal for a fountain, to be crowned by a statue of the immortal Wren, has been actively canvassed? It is proposed to place this memorial in the immediate neighbourhood of St. Paul's Cathedral, the more especially as the present chapter have removed the monumental inscription in front of the organ-loft. As the question whether Wren deserves a statue is one on which your readers are not likely to have much diversity of opinion, I shall feel much obliged by your insertion of these remarks.—A Citizen.

*** The proposition for a statue to Wren on a site near St. Paul's was made long ago in the *Builder*.

TENDERS.

For New Congregational Chapel, Wandsworth. Mr. J. G. Stapleton, jun. architect. Quantities supplied by J. C. & G. Lansdown:—

John Jay	£3,058 0 0
Patman & Fotheringham	2,882 0 0
Wm. Higgs	2,868 0 0
Nicholson & Sons	2,850 0 0
Low & Sons, Guildford	2,842 0 0
Tarrant	2,433 0 0

For two villas, at Snaresbrook, for Mr. Skelton. Mr. Noble, of Woodford, architect:—

A. S. Read	£2,195 0 0
A. Read	2,179 0 0
Arber	2,160 0 0
Dove (Brothers)	2,145 0 0
Rivett	2,093 0 0
Hedges	2,075 0 0
Perry	2,050 0 0
Sturgis	1,997 0 0
Hill (accepted)	1,989 0 0

For a new house, for Mr. Bond, at Hampstead. Mr. E. O. Parnell, architect. Quantities by Mr. W. Wallen:—

Myers	£3,778 0 0
Clowser	3,690 0 0
l'Anson	3,584 0 0
Patman	3,560 0 0

For the erection of St. Edmund's schools, Salisbury. Mr. Woodyer, architect, Guildford. Quantities supplied by Messrs. Pearson & Doughney:—

Wheeler & Co. Reading	£3,800 0 0
Ramsey, London	3,524 0 0
Pickard, London	3,394 0 0
Hale, Salisbury	3,228 0 0
Futcher, Salisbury (accepted)	3,104 0 0

For a residence, at Streatham. Mr. Richard Drew, architect. Quantities not furnished:—

Williamson	£1,306 0 0
Trollope	1,305 0 0
Ward	1,285 0 0
Downs	1,276 0 0

For entrance-gates, piers, fitting-shops, and purifying shed, at the Aldershott Gas Works. Mr. Frederick Eggar, architect:—

Wm. Duke	£430 0 0
Speakman and Haines	428 10 0
H. Loe	420 0 0

For erecting tower and spire, and enlarging St. Gregory's Church, Cheltenham. Mr. Charles F. Hansom, architect:—

Darby, Cheltenham:—

Part 1	£1,447 0 0
„ 2	956 0 0
„ 3	797 0 0
„ 4	494 0 0
	£3,694 0 0

Acock, Cheltenham:—

Part 1	£1,139 0 0
„ 2	689 10 0
„ 3	1,025 13 0
„ 4	545 17 0
	£3,400 0 0

Williams, Bristol:—

Part 1	£1,230 0 0
„ 2	748 0 0
„ 3	658 0 0
„ 4	477 0 0
	£3,113 0 0

Harrison, King's Stanley, Gloucestershire:—

Part 1	£1,220 0 0
„ 2	735 0 0
„ 3	660 0 0
„ 4	470 0 0
	£3,085 0 0

For erection of the Red Cow public-house, the Grange, Bermondsey, for Messrs. Day & Co. Mr. George Elkington, architect:—

Brown	£967 0 0
Coleman	955 0 0
Thompson	878 0 0
Soper	875 0 0
Wells (accepted)	847 0 0

For four cottages adjoining the Gas Works, in the Ashe-road, Aldershott. Mr. Frederick Eggar, architect:—

J. & G. Goddard, Farnham	£735 10 0
H. Loe, Alton	730 0 0
W. Duke, Farnham	680 0 0
J. Martin, Aldershott	650 0 0
Speakman & Haines, Farnham	629 10 0

For alteration to warehouse, and additional buildings to a house in the Victoria-road, Aldershott. Mr. Fred. Eggar, architect:—

Speakman & Haines	£168 10 0
J. Martin	160 0 0

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J. C.—J. R. C.—J. H. G.—Roodspere.—Dr. R. W.—R. J.—W. D.—J. C.—Mr. T.—C. B.—W. B.—Rev. J. W.—Constant Subscriber (Messrs. Hunt and Stephenson).—G. J. S. (thanks: the front sent is surely much more recent than the fourteenth century. We do not desire to engrave it).—S. and H.—T. J.—C. R.—S. G.—D.—G. F. (glad to hear from him).—F. E.

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